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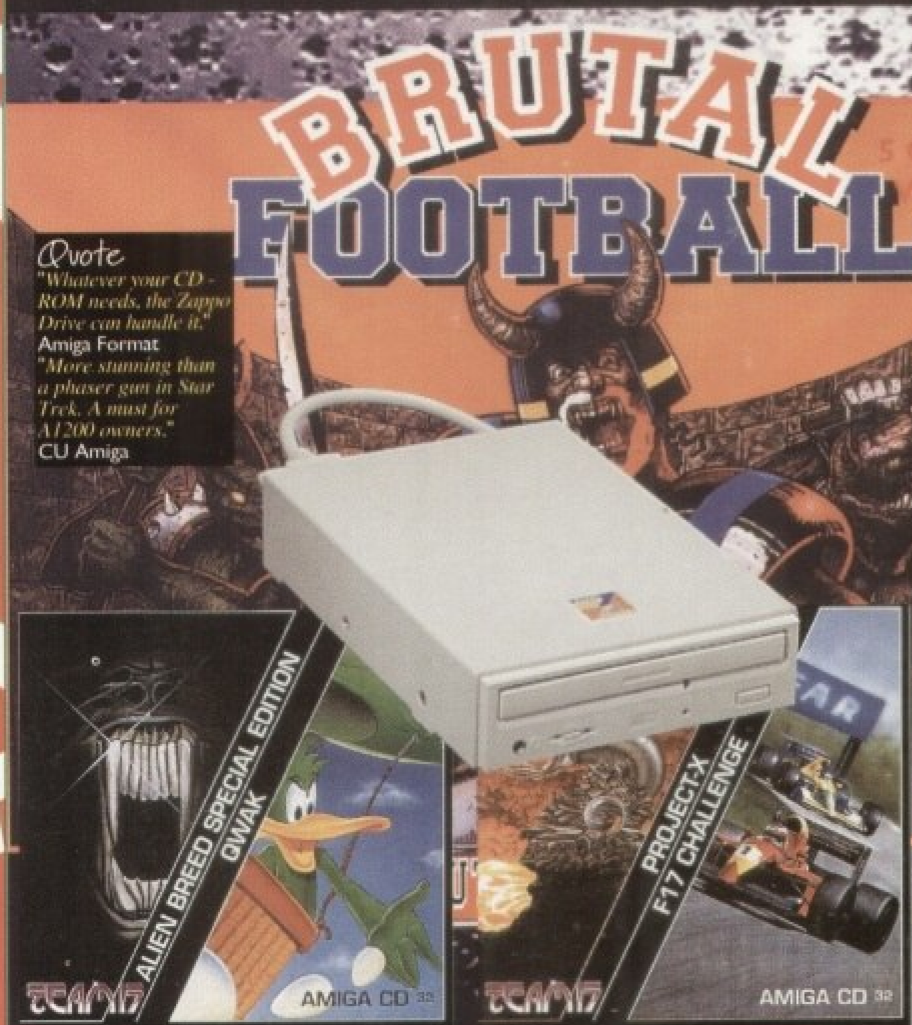
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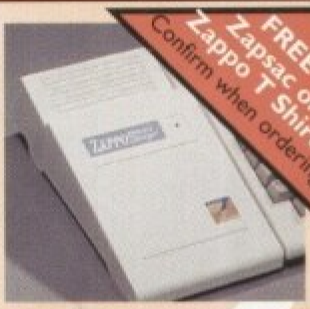
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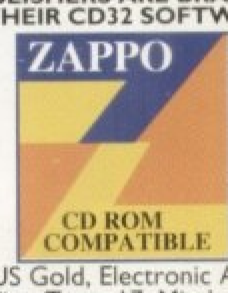
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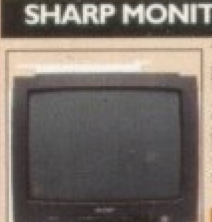




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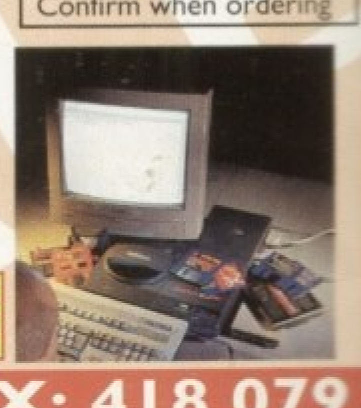
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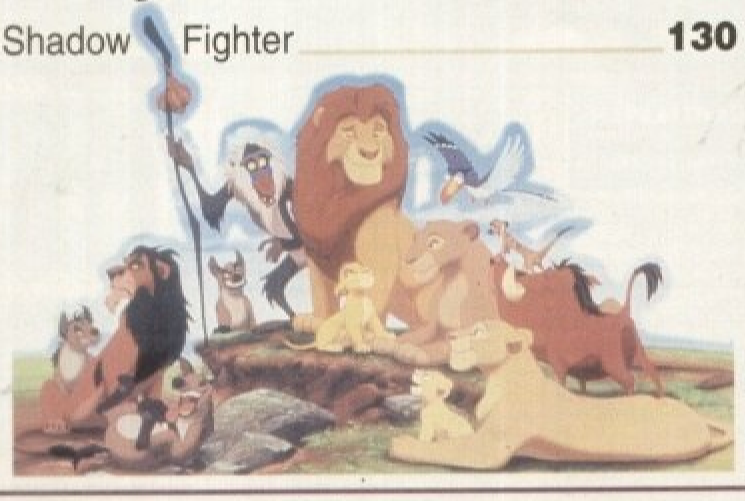
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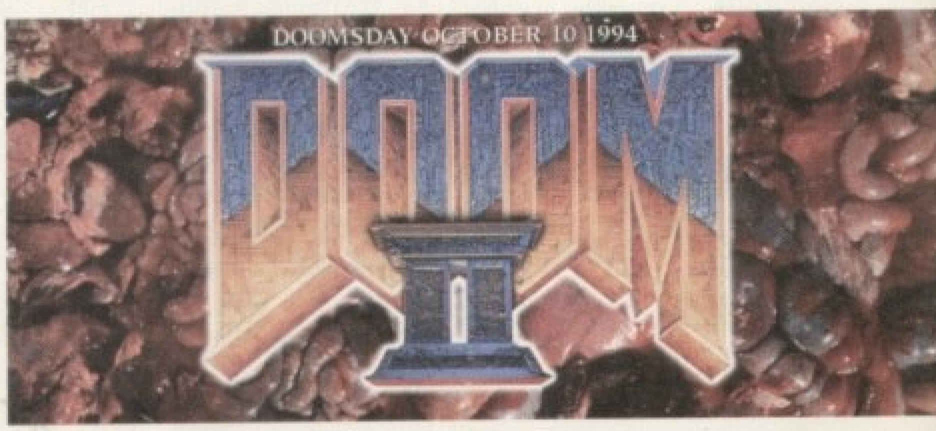
Game Reviews



Reviews

Special CDs 58
The CD-ROM revolution continues with four CDs under the spotlight

Features



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COVER STORY



Aardman Animation

Amiga Computing discovers that the Amiga's at the heart of this Oscar-winning animation company.

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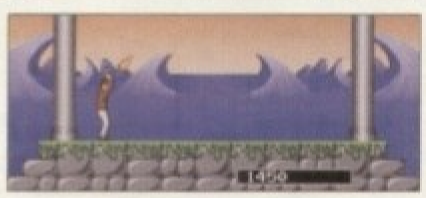
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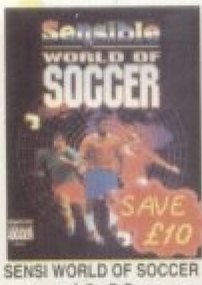
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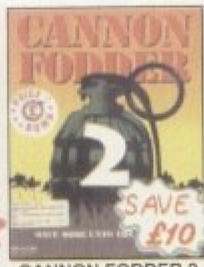


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...for details of *Amiga Computing's* subscription offers this month.



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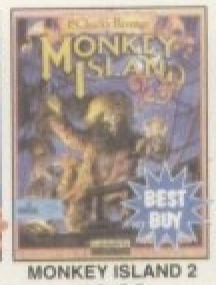
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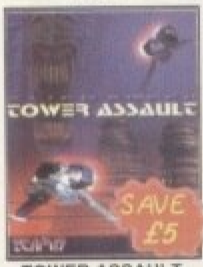
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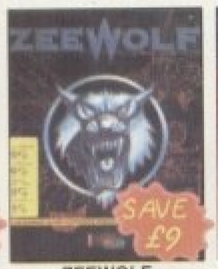
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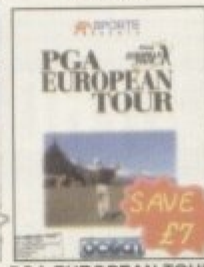
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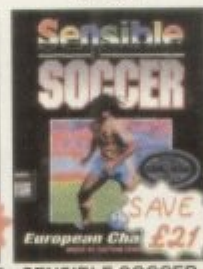
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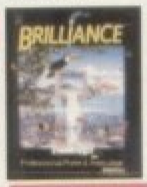
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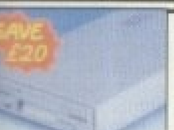
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NEWS

By ADAM PHILLIPS

Commodore UK makes first bid



Pleasance: "I can assure you that he [the liquidator] has received the bid and he has also received the money"

After last month's strongest contender, CEI, appearing to be in a position to finally lay down the first bid, the query over the future of Commodore has been thrown into the air yet again.

While the headline might point to some kind of resolution, David Pleasance's revelation that they had made the first bid has been undermined by the apparent lack of verification from either Franklyn Wilson, the liquidator in the Bahamas, or Alex Amor at CEI in Miami.

At the World of Amiga show held over the weekend of the 9-12 of December, I met with David Pleasance to ask for the latest report on the buyout. This is what he had to say:

"Last Tuesday we made a definitive bid to the liquidator and that bid was supported by documentation that proves that we have all the funds. Plus, we paid the deposit and that went in last week.

On the 21 December '94 there is a creditors meeting and we're going to ask them to approve the offer – we don't actually need their approval but it would help if we had it because it means nobody can argue about it [the first bid]." When *Amiga Computing* phoned Franklyn Wilson, the liquidator based in the Bahamas, it would appear that he wasn't so sure that the initial bid had been made: "Well, let me put it this way. Evidence of good faith is being put forward to us but we do not yet have a definitive agreement. That's the bottom line."

CEI's Alex Amor is baffled by Pleasance's statement concerning the first bid: "I can't speak for Mr Pleasance and certainly can't make any comments on that, but I would find it very hard to believe that the liquidator had not informed us of that event... we're still talking to the liquidator on a daily basis. I think that if the first bid had occurred, they would definitely tell us so."

On phoning David Pleasance two days later, he reaffirmed that the bid had been made: "I can assure you that he has received the bid and has also received the money. My understanding is that the money should have gone into the bank account yesterday [15/12/94]."

So, despite the initial confusion that has plagued the buyout from day one, it would appear at last that the bidding process can begin aproper and Amiga International have taken the first vital step towards bringing about the Amiga's revival.

Why the delay?

Franklyn Wilson, the liquidator dealing with the Commodore bankruptcy, told *Amiga Computing* why there have been so many delays, setbacks and other problems that have hampered the buyout procedures:

"It's taking a long time because, while the Commodore corporate structure might have been particularly efficient for regulatory and tax reasons as a going concern, it is a literal nightmare for a liquidation because of the multitude of jurisdictions and because of the complexity of the corporate structure. It's a constantly shifting sand as more players get in the equation. That's a true cause of the problem."

With the first bid made, we should be seeing a resolution very soon now.

What the future may hold

Let's say, for the sake of argument, that Pleasance's claims of signing the first bid are cemented in concrete and brings Amiga International a step closer towards dealing in the fierce and competitive world of computers. At the recent World of Amiga show, Pleasance gave us a more thorough breakdown of what we can expect to see from them in the immediate future. "There are five and half million Amigas in Europe – a lot of them are 500 and 600s and there are many people who want to upgrade. What they want is something that is more powerful than a 1200 but less expensive than a 4000.

"So what we would like to bring out, if we can, is a product which is probably 030 based in a PC-style case, has a couple of expansion slots and the ability to have a CD32 compatible in-built drive. It will be a price somewhere between the 1200 and 4000 so we don't upset people who own 1200s... I think we'll sell a lot of them."

And Amiga International's managing director was more open with his plans for the new machine on its way in the next two years – if they win.

"We've got a new system which is probably about 25 per cent developed and I believe is going to be at least 18 months to two years before it's completed. Essentially, it takes a RISC-based form and, with our own technology, the chip will have a full 3D rendering engine – texture mapping, polygon control, 22 voice 16-bit stereo, Mpeg compatible all in the chip. "From that chip we will have a whole range of consumer products right up to the top-end workstations in a modular way, so the low-end may have one or two of these modules with expansion for more. We want to make them fully expandable."

Pleasance continued: "To give you some idea of the power of the product, we will have a CD-based console which will be, in our opinion, the most powerful product of all the consoles. More so than the Ultra 64 from Nintendo – the specifications for that machine are impressive. Our machine is approximately 20 times more powerful than that. In terms of a comparison with the new workstation to an A4000, we're talking about something 35 times more powerful than the 4000.

"The other thing is that the workstation, because of the technology of RISC, will allow you to run Dos products through Windows NT and I'm told by the engineers that the Dos software will run five times faster than Pentium."

Pleasance is not worried about the two-year gap between finalising the contract and the new machine appearing. He believes that with all the third-party support the Amiga receives, the 060-based machines and other areas of expansion will provide ample opportunity for power-hungry consumers to get their hands on faster technology.

NEWS BRIEFS

Bargain hunt

To coincide with the New Year, EM Computers are offering a range of discounts across their shareware and PD range for discerning customers. Buyers placing an order for two volumes of their software can expect discounts of £3. The system means that £1.50 is taken off the price of each volume subsequently ordered.

There are also special offers on the Safari fonts volumes and, for further details, phone Errol at EM Computergraphic on 0255 428666.

★★★

Sales figures rise

The '94 Christmas period has shown a significant rise in software sales after the dismal purchasing performance during the rest of the year. Mortal Kombat II on the Amiga has hit the top spot in Gallups' all-formats home computer charts and the Amiga top twenty, showing software publishers that there is life in the machine yet.

With the super consoles such as the Sega Saturn and the Sony Playstation arriving this year at some point, there is a hope that the industry will be pulling out of its flat sales period and stabilising in '95.

★★★

Ribbon ties the knot

The States-based company, Blue Ribbon have selected Premier Vision in London as their new UK support offices. For pre-sales advice on the American firm's music products for the Amiga, phone the Premier Line on 0181-332 6959.

★★★

Another brick in the wall

With a mass of new, improved super consoles dredging themselves up on the shores of the UK at some point this year, Apple, those of Mackintosh fame, are releasing their own 'multimedia' player called, wait for this, the 'Pippin.'

The company are gearing their new product as a CD-based general home education and entertainment system which can play games, music, videos and provide an information reference.

The machine is based round PowerPC technology and should appear in late 1995.

World wide success



Peter Brameld, organiser of WOA: "The show has gone well"

Those of us cynical enough to think that the World of Amiga Show would be anything but a success were very fortunately proven wrong. The Wembley-based show was mostly full for its three days, with exhibitors from all over the world showing off their various hardware and software additions for the Amiga.

Among the exhibitors were some of top-end companies such as NewTek – whose video projector constantly pumped out Lightwave sequences taken from television shows – Digital Processing System and its PARcard playing Aardman Animation's *The Wrong Trousers*, and Wolf Dietrech from Advanced Systems and Software could be found at the Gordon Harwood stand showing off the world's fastest Amiga in the shape of the Cyberstorm 060 card.

GRAPHICS

The best arts-related software of the exhibition was Almathera's Photogenics, a graphics manipulation package whose versatility and options could make the likes of Adobe Photoshop pause for a moment to look over its shoulder. For more details about Photogenics see the review on page 40.

CD32 owners can look forward to a wide selection of video CDs coming their way once the FMV cartridge goes into production again. The hit with the punters was the Queen Greatest Flix CD that features the best of the much celebrated band's pop promos, with full video controls. Children's programming was catered for by The Shoe People, the popular kid's programme where users can select an episode from a variety on offer.

Commodore took up the main central stand with a TV wall playing effects and video CDs. Most of the hall though was taken up by a performing area where a mixture of entertainment artists strutted their stuff to very varying degrees of success.

There wasn't much of a turnout from the games houses with only Ocean, Gremlin and Team 17 on site to flog their goods, but some of the game discounts on offer were rather good – where else can you buy a copy of Acid Software's excellent *Skidmarks* for £2? Peter Brameld, the organiser behind all the shows for the last 14 years, was enthusiastic about customer response: "In terms of volume, this show was not as highly attended as others but the people there were spending a lot of money. The show has gone well."

Retailers were equally happy with the weekend. Silica's Ken Browning said: "It's obvious from the enthusiasm of the crowds that the Amiga still has a bright future. If the buyout is sorted out within the next couple of months, I'm sure retailers can expect a New Year bonus from the UK's Amiga fans."

Tony Ianiri from Power Computing echoed the positive note: "The show was well attended, well organised and professionally run throughout the three days, and has certainly breathed a new lease of life into the Amiga market."

Kieron Sumner from Commodore also chipped in with: "Many of the overseas visitors were amazed at the strength of support for the Amiga in the UK. As a result, many have already booked larger stands for next year's show."

REACTIONS

David Pleasance was at the show to offer advice to regular Amiga punters. And his reaction? "What I'm most happy about is the fact that we have people from America and all over Europe actually exhibiting here. That, I think, is a very good indication of the support that we have for our MBO [management buy out] in the face of the US competition.

"Another thing I'm very happy with is that the end users are coming along with money in their pockets and are showing their support for the brand. I don't think there are many single brands that ever get this level of support. It's phenomenal, I'm really delighted with that. I wish we'd been able to advertise the event a bit better but, considering we haven't got much money, I think we've done a pretty reasonable job."

Whatever the outcome of the bid, the hope is to hold another show come Spring, followed by a more major venue at Christmas.



World of Amiga Show: Proving that there is still life in the Amiga



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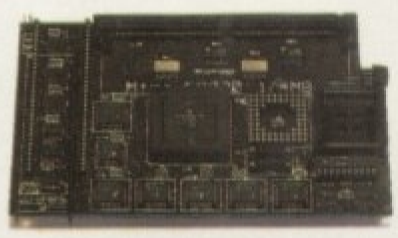


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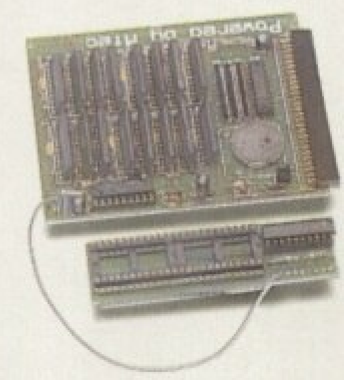
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Home Office put the boot in

Despite the software industry's attempts at self-regulation through the introduction of an age rating scheme on all computer titles, it has now become apparent that '95 will see an increase in the number of games submitted to the British Board of Film Classification.

Anything with a highly violent content, even the likes of Super Street Fighter or Mortal Kombat II, could find themselves on the receiving end of a BBFC certification. The reason for the enforced change is the new Criminal Justice and Public Order Act which means video games are no longer exempt from the Video Recordings Act.

After not being able to come to a decision themselves, ELSPA and the Video Standards Council asked the Home Office for advice on whether human and animal characters should be treated as 'real' or not. The subsequent response was that animated and digitised humans and animals should be treated as real ones – in other words, if the characters on screen look like the real thing, then they are just that in the eyes of the law.

Unlike the ELSPA's rating system, anyone selling an 18-rated game to a minor could find themselves paying a hefty fine or, worse still, spending time in prison.

The ramifications on the industry could also be negative as well – this year has seen a refreshing rise in adult-themed games. This genre, along with fighting games, could be under threat because the bulk of sales come from children and teenagers and therefore games will have to be adapted/water downed to reach the widest possible audience and to avoid breaking the law.

Budget genlock from Silica

The benefits of quality titling on even the most amateurish of videos can make a real difference in presenting work to friends, family and colleagues. The arrival of the Amitek Fusion Genlock from Silica could help video makers add that much needed professional finishing touch.

Coupled with Scala's HT-100 titling system, the complete package costs £99 and is available from Silica on 081-309 1111.



Amitek genlock: Budget video making for home users

Toaster rival arrives

The OpalVision system has been around now for two years, providing users with a 24-bit display board and a paint package. We've been promised the Toaster-beating video processor that plugs directly into the board for several months now, without it appearing.

But it would seem that the boys in Australia have finally got round to releasing the add-on and judging from its spec list, it could be very special indeed.

Featuring the long-awaited Roaster chip, the processor allows the user to create text, insert chroma or luma keyed video between definable foreground and background layers of a 24-bit image, real time colour processing of live video and an unlimited number of transitions and Digital Video effects.

These include wipes, fades and organic effects such as tumbles, page peels, picture-in-picture, image wrapping and more.

For more details on the system, contact Ian Greenaway at White Knight Technology on 01920 822321.

It's an open and closed 'krypt', guv

With the cost of software piracy placed at £778.5 million in the UK alone, ELSPA's crime unit continues to make headway into the problem. The operator of a bulletin board in Birmingham has been fined £500 and had over £3,000 of computer equipment confiscated following a raid initiated by the Crime Unit.

The BBS, called the 'Krypt,' contained large amounts of software for the Amiga which users could copy in exchange for one of their own titles. The bulletin board operator, Robert Frank Butler, pleaded guilty to two specimen charges of distributing copyright software.

John Loader, head of the ELSPA Crime Unit, commented: "Obviously this degree of loss cannot continue unchecked, which is why ELSPA has been so active in pursuing software pirates and bringing them to justice."

Anyone with information concerning illegal software should call Loader on 0386 833810. All calls will be treated in the strictest of confidence.

Stop phoning!

Eager *Amiga Computing* readers who are trying to lay their hands on a coverdisk that featured Infofile should stop trying to phone its makers. Their number is now defunct but, unfortunately, some people have been going through directory enquiries, finding a similarly named company, and phoning them up instead, subsequently jamming their switchboard. We ask anyone tempted to phone Profile Business Forms to try and get hold of Infofile, to not bother because they are not related at all to that

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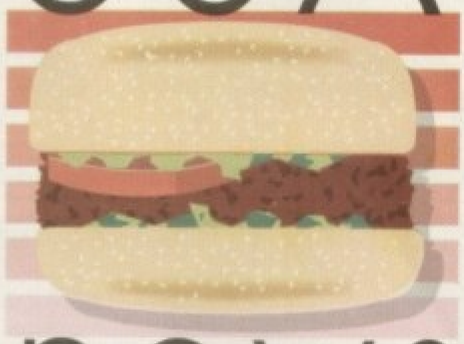
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Studio in a box

USA news



More of your dream products from our American scout, Denny Atkins

Digital Creations' new SuperGen SX studio bundle is billed as a complete broadcast-quality studio in one box. The bundle, which works with all Amigas from the A500 through to the A4000T, includes a genlock, video titling program, and paint software.

The genlock, the broadcast-quality SuperGen SX, is a standalone, external, S-Video genlock that supports NTSC and PAL video. Video titling is handled with Broadcast Titler 2.0 and paintbox effects can be created using the Brilliance 2.0 paint program which has been included.

With this bundle you have everything you need to overlay titles, create animated borders and graphics, and fade between Amiga graphics and an external video source. The software supports both ECS and AGA systems.

At a retail price of $799.95, it's a nicely priced way to turn your Amiga into a video-production studio. For more information contact Digital Creations (now a Play company) on +44 916-344-4825.

Printer helper

If you own a Hewlett Packard DeskJet or LaserJet printer, you've probably been frustrated that the AmigaDOS printer drivers don't let you take full advantage of your printer's capabilities. Creative Focus have the cure – the Super series of printer drivers.

Super DJ3 is an enhanced driver for all DeskJet models, including the high-end DeskJet 1200C as well as the new DeskJet 540 and 560C models. It includes much better graphic routines than the Commodore drivers, and colour-correction features that will help prevent dark, muddy, oversaturated printouts.

Super LJ4 supports the enhanced resolutions of LaserJet models such as the 4L and 4P, as well as older LaserJet printers. Both Super DJ3 and Super LJ4 Preferences go one better by letting you select the printer's built-in and add-on typefaces.

Each product retails for $60. They're available from Creative Focus, PO Box 580, Chenango Bridge, NY 13745 USA; phone (607) 648-4082. If you've picked up Epson's fantastic new Stylus Colour inkjet, which can print nearly photographic-quality 720 dpi images, only to find that all the Epson drivers for the Amiga support only 360 dpi, you're in luck.

Endicor Technologies have released the Epson Stylus Colour Driver 1.0 which handles all of the printer's resolutions. This $44.95 driver supports the high-quality Microweave printing mode, and has a compression feature that speeds printing. Endicor claims an Amiga 3000 prints at the same speed as a 486/66 with Epson's driver. For more information call Endicor at (210) 650-4988, or e-mail info@endicor.com.

Amiga on the road

Are you upset that Commodore never made a portable Amiga? An American company claims they'll take your Amiga 1200, 3000, or 4000 and convert it into a transportable laptop computer.

Called PAWS – the Portable Amiga WorkStation – this unit includes a case, power supply, battery, transformer, colour screen, and a trackball interface – everything you need to make your Amiga easily transportable. The company says it will be shipping units by the time this goes to print, so I'll try to follow up on this in a future issue. If you can't wait, contact Silent Paw Productions, PO Box 1825, Manassas, VA 22110.

Shameless self-promotion

Early 1993 saw the release of my first Amiga book, Denny Atkin's Best Amiga Tips and Secrets. The 250-page book, which covered every Amiga from the 1000 to the 4000, received great reviews and positive feedback from Amiga users. Unfortunately, the book's publishing company shut down earlier this year, and it's been off the market.

I'm happy to announce that I've nearly completed an updated version, Denny Atkin's Best Amiga Tips and Secrets, second (Electronic) Edition. Along with the ridiculously long title comes a new form of distribution: This edition will be sold on floppy disk. The disk format makes searching for topics and troubleshooting information much faster and, thanks to AmigaGuide indexing, easier. Important sections can be printed out to keep as reference in case you have computer problems.

The disk contains the complete text of the first edition, with updates where appropriate. Topics covered include AmigaDOS tips and tricks, Workbench secrets, printing tips, hardware upgrades, CD-ROM, emulation, and telecommunications.

New sections include tips on AmigaDOS 3.1 and a guide to finding Amiga information on the Internet. Whether you want to find out how to make directories with icons from the Shell, view the secret messages in Workbench, get the best printout from your colour printer, or diagnose that red screen you see when booting your Amiga, you'll find it in this electronic book.

The electronic book sells for $20 (add $3 shipping and handling in the US, $5 outside the US; cheque or money order in US funds only) and is distributed by Upstart Publishing, PO Box 4711, Greensboro, NC 27404 USA.



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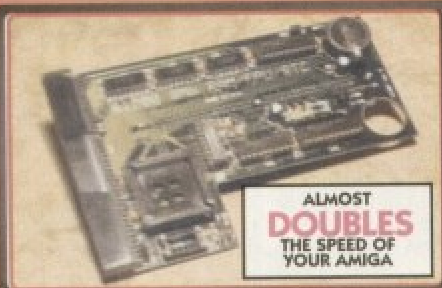


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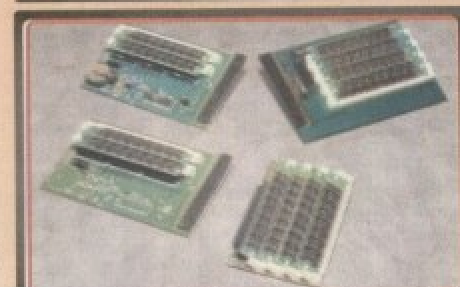
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getting started



The Amiga Computing CoverDisk is designed to be as simple to use as possible. Follow these instructions and you'll be up and running in no time!

De-archiving applications - Workbench 2.0 and above

Always boot from your CoverDisk when de-archiving applications. The installer programs can be located via the install icon with the appropriate name in the WB_2&3_Only drawer.

The de-archiving procedure has been much improved and now combines the power of the official Commodore installer program with that of Workbench 2.0 and 3.0.

The installer program is designed to be powerful yet simple for the beginner and features a user-friendly interface allowing you to de-archive programs with a minimum amount of fuss. The installer programs for Workbench 2 and 3 users can be located via the icons named:

```
Install[program name]
```

eg:

```
InstallPFM
```

To run, simply double click on the icon which will load up the installer program.

Using the installer

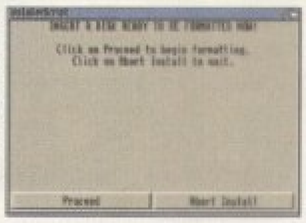
Ignore the buttons that appear when the installer program boots up and simply click on the Proceed button. The program will then copy the necessary files to RAM.

Once this has finished it will inform you that it is about to format a disk in DF0. Click on Proceed, at which point you will be told to insert a blank disk ready for formatting.

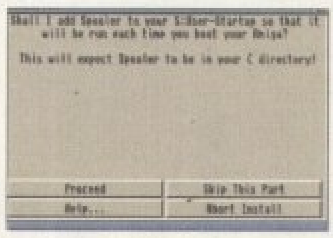
Once you have clicked on Proceed, the installer will indicate that it is formatting the disk in DF0. When this has finished, click on Proceed again to start the de-archiving procedure. When the application has been de-archived you will be told where the de-archived files are. Click once again on Proceed to finish.

If at any time you are unsure as to whether you want to continue installing, you can click on the Abort Install button.

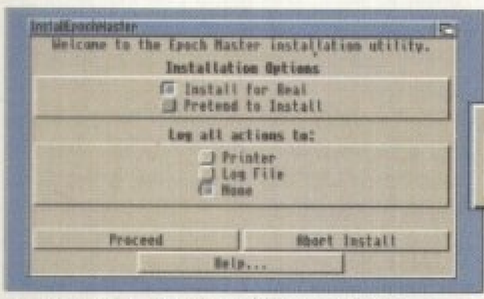
Occasionally, utilities may need to add instructions to your User-Startup file located in the S directory so that they will function correctly. If you want to add the instructions, click on Proceed when prompted.



Don't forget to insert a blank disk at the prompt and before pressing Proceed



Any commands that need to be added to your User-Startup can be done with the press of a button



Don't worry about the installer options. Simply click on the Proceed button



The Workbench 2.0 and 3.0 installer icon

The Files drawer contains all the utilities set up so that you can use them from the CoverDisk. A Games drawer is also provided so that you can play these immediately. If you want to install the games make sure you copy all the necessary files across as listed in the CoverDisk pages.

We have now managed to fix the problem with AmigaDOS displaying a "disk is write protected" requester when a write-enabled disk is inserted. Just make sure you insert a blank disk when the installer programs tell you – and not before or after.

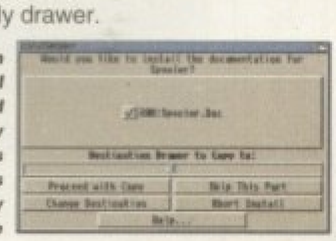
Installing utilities

The procedure for installing utilities is much the same as installing applications, except that you can boot from your hard drive or Workbench disk. As utilities don't need to be de-archived, you are asked to specify a directory on your hard drive or Workbench disk where you would like to install them.

If you don't want to install to the default directory you can change it by clicking on Change Destination. The Show Drives button will allow you to select a new device and directory. You can create a new drawer for your utility to go in by clicking on the Make New Drawer button and typing in the name.

You can also make a utilities disk by running the MakeUtilitiesDisk1.3 program located in the WB_1.3_only drawer and installing your utilities to here. At times you may be asked if you want to install a utility's documentation. A tick box indicates that the documentation is selected for inclusion, but you can click on the box to ignore it or simply click on the Skip This Part button.

The utility installer programs can be found in the appropriate program drawer in the WB_2&3_Only drawer.



You can easily install documents and create new drawer thanks to the installer's user-friendly interface

De-archiving applications - Workbench 1.3

Always boot from your CoverDisk when de-archiving applications. The installer programs can be located via the install icon with the appropriate name in the WB_1.3_Only drawer.

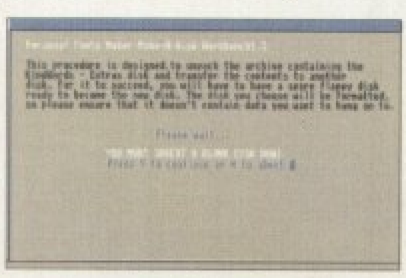
```
Install[program name]_1.3
```

eg:

```
InstallPFM_1.3
```

When you load up the 1.3 installer the program will first prepare itself ready to de-archive the program to a blank disk(s). You will then be asked to insert a disk to be formatted into DF0 and either press y to continue or n to abort.

Provided you answer y, the disk you insert will be formatted and the application de-archived.



After inserting a blank disk press y to continue or "n" to abort

Installing utilities

You should first run the MakeUtilitiesDisk_1.3 to format a blank disk called ACUtilities which will be used to store any utilities you eventually install.

This disk can be used with future CoverDisk utilities until it becomes full. The MakeUtilitiesDisk1.3 program will be a permanent feature of the CoverDisk.

To install any utilities, boot your machine with your CoverDisk inserted in DF0. Utilities can be installed by clicking on their install icon found in the appropriate drawer in the WB_1.3_Only drawer. You cannot specify their destination and any additions to the Startup-Sequence must be done manually.

When installed the utilities are copied to a drawer called ACUtils on the ACUtilities disk.



The Cover Animation

Think you can become a Disney rival? Try your hand at this package and you may well surprise yourself

Axiom software are renowned for their range of graphic utilities and applications. Some of their most notable productions include Pixel Pro 3D, the awesome 3D object utility, and Wave Maker, the add-on for Lightwave which makes creating scenes and broadcast quality animations a breeze.

Being the kind of people who would happily help old ladies across the road, Axiom have decided to be equally nice to all you *Amiga Computing* readers by giving away the complete and unrestricted version of Animation Workshop v1 on this month's fab *Amiga Computing* CoverDisk.

This excellent processing utility allows you to easily create your own animations and provides a host of powerful features and functions to edit and otherwise manipulate animation files.

Add to this the powerful ARexx script support, along with direct support for ADPro, and you have an awesomely useful animation tool at your fingertips.

Once you have fooled around with Animation Workshop version 1 for a while, why not take advantage of a special offer to upgrade to Animation Workshop 2 which has many more features and AGA support. Turn to page 26 for full details on how to get hold of this great package.

For now though, let's go through some of the equally great features of version 1.

Essentially, Animation Workshop (AW from here on) works by loading animation or image files into memory and then allowing you to apply various processes to the frames. This usually results in a new animation file which you can immediately view to check the results.

Just like some image processing programs allow you to work with single images, AW lets you work with all the frames of an animation. Of course, with its direct support of ADPro, AW can call it for certain operations, so it can also act as an image processor.

The main screen is divided into various areas. Top-left is the File List. This is where images and/or multiple animation files can be set up for processing. Many of the tools AW provides require these list items in order to work. Below the File List area are the editing buttons which allow you to add, delete and otherwise manipulate each File List entry.

Top-right is the Animation Panel. There are two ways to load animations. You can load them into the File List or directly into the Animation Panel.

TOOLS

If loaded in the list, only certain tools can be applied to the animation. When loaded into the Animation Panel, most of the tools are available for processing the file and you can also play the animation from here. To load an animation into the panel, simply click on the Load ANIM button.

Once you have your images and/or





The Animworkshop team rivals to Disney

rDisks

workshop

animations loaded into AW, you can then apply a large array process to them using AW's tools. These tools are accessed by clicking on the Tool button (below the Play and Clear buttons of the Animation Panel).

To select a particular tool, you can simply click on the Tool name button using the left mouse button. Doing this will select a different tool with each click.

A much better method of selection is achieved by clicking on the tool name button with the right mouse button. This will display a complete list of all available tools for selection.

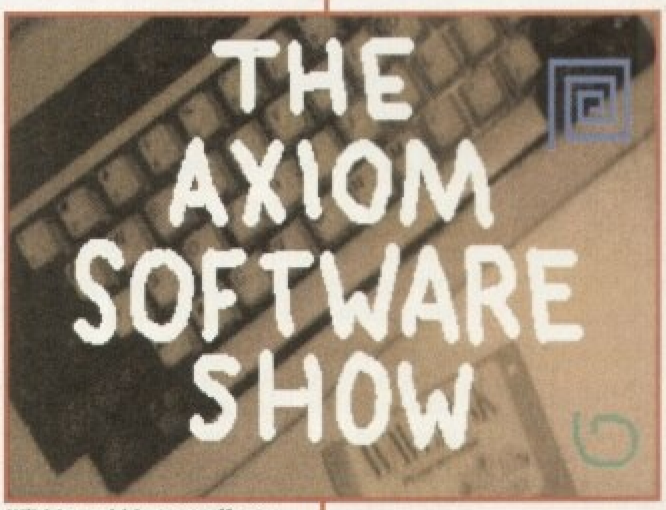
Once you have chosen a particular tool, you can then apply it to your animation or images by clicking on the Execute Tool button. In most cases, the tools available will process your animation or images, resulting in a new file, which will require you to enter a unique name for the resulting processed file.

If the file is an animation, you are given the option of immediately viewing it to check the results.



Animation Workshop tools

- Add Loop Frames – lets you add loop frames within an animation.
- Combine – combines all images and animations in the file list into a single animation. All images and anims must be the same resolution and colour depth.
- Convert – converts the current animation according to the specified parameters in the displayed parameters box.
- Create – creates a complete animation file from the images in the File List.
- Custom ADPro and ARexx – these allow you to assign a custom ADPro or ARexx script as a process.
- Flip – this tool requires ADPro and creates a new animation from the current one that is flipped horizontally and/or vertically.
- Grab – lets you create an animation by 'grabbing' whatever is currently displayed on your Amiga monitor. Use CTRL+LEFT SHIFT+a to add frames at any time.
- Histogram – analyses the current animation and shows how many unique colours are contained in the animation.
- Info – displays comprehensive information on an animation file.
- Insert – inserts whatever is specified in the file list into the current animation in the Animation Panel.
- REM Loop Frames – removes loop frames from the current animation.
- Replace – replaces frames in the current animation with whatever is contained in the file list.
- Reverse – regular opcode 5 anims cannot be played backwards. This tool creates a new reversed animation to overcome this.
- Scale – scales the current animation to a new resolution. Requires ADPro.
- Separate – saves each tagged frame of the current animation as a single IFF image file.
- Split – breaks up the current animation into smaller animation segments.



Wibbly-wobbly text effects plus animated patterns



Combined photo's and animated graphics



A time for sharing

Treat yourself to these shareware utilities and improve your Workbench no end

ASQL

Author: C. O'Reilly
Workbench 2.0 and above

ASQL is a database program based on the SQL (Structured Query Language) databases. These types of database can be fully accessed by C and other such programming languages.

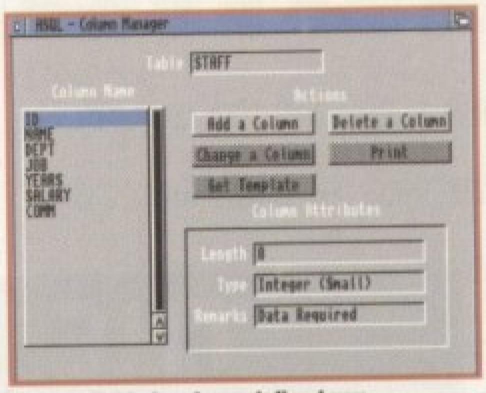
For our CoverDisk, ASQL is primarily used as a database that can provide a variety of functions and is totally definable as regards data retrieval.

Once ASQL is loaded you will be presented with the main ASQL interface. To create a new database, click on the New button. The following window will require you to enter a name for the database (maximum of eight characters), a password and re-verify password and a comment which you can enter for your own reference.

Once you have entered the necessary information and clicked on OK you will see the name of the database in the list. Now that it is created, click on Open to actually invoke the database so that you can work on it. Enter the correct password and several new buttons will become active.

The next thing to do is to create a table. Tables are individual databases contained with the main database and the use of tables allows for powerful cross referencing and also makes the data easier to read and access.

Click on the New button in the Tables section of ASQL. At this point you will be required to enter a name for the table and also add a comment of your choice. With this completed the Column Manager window will appear and it is here that you actually enter the columns for your table.



Once a Table has been defined you can then create the individual fields

Click on Add a Column and you will be able to define each column field, including the name and attributes. Most of the buttons and gadgets here are self-explanatory and basically allow you to control exactly what type of data can be entered.

Once you have completed a column, click on Add to add it to the table. The Column Attributes window will remain, waiting for you to enter more columns. If you have finished, click on Cancel to return to the main Column Manager interface.

The Column Manager will reflect your additions and you can click on each column to check their attributes. If everything is satisfactory, quit to the main ASQL interface by clicking on the close window gadget.

To actually enter data, select the appropriate table in the Tables list and then click on Add Data Rows. This will produce a familiar database entry window in which you can begin to enter the data for each column. Once you have entered the data, click on Add and it will be added to the table. When you have finished, click on the close window gadget and you will be returned to the main interface.

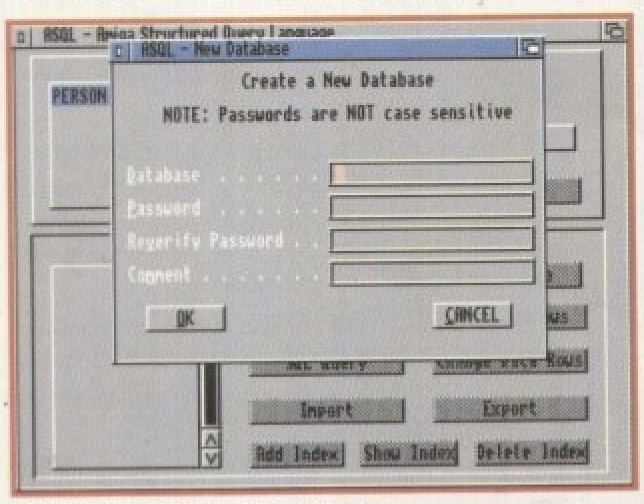
If you want to change certain data in a table simply select the table in which the data resides and then click on Change Data Rows. The window that appears looks very similar to the Add Data Rows window but offers search facilities so that you can easily locate the data row you want to change.

Type in the data you want to search for in the appropriate column and then click on Search. If the matching data is found the complete data row will be displayed. If it is not the correct row simply click on the Search Again button to look for the next occurrence of the data you entered.

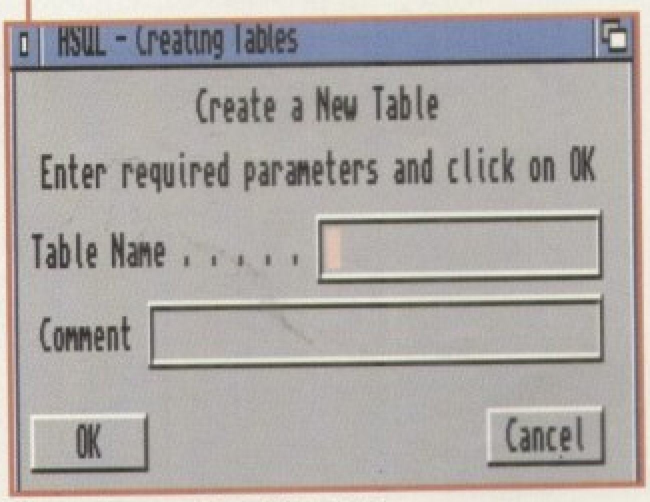
Once you have located the data row you want to edit, make your changes and then click on Update Row. Alternatively, you could click on Delete Row to erase the entire data row. Once you have completed your database you can export it as data so that it can be used in all word processors and most spreadsheets, including Amiga, Mac and PC formats. You can also import data from spreadsheets and turn it into an ASQL database.

The real power behind ASQL is its in-built SQL Query ability which gives the program its flexibility. Using this language, you can extract any information in any form from a database and view it in the text viewer supplied with ASQL.

However, if you really want to use the language and learn how to access ASQL data from programming languages, you will need to upgrade to the full package which features a well-written A4 manual packed with examples and syntax.



ASQL allows you to define databases which can be instantly accessed



You can have as many Tables as you want in each database you define

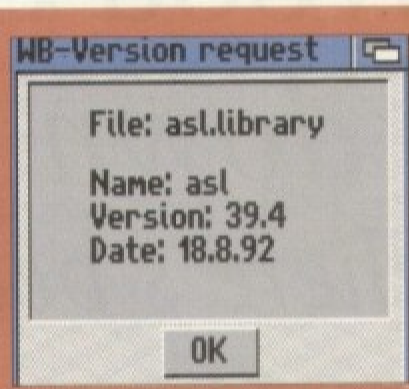
WB-Version

Author: Hakan Hellberg
Workbench 2.0 and above

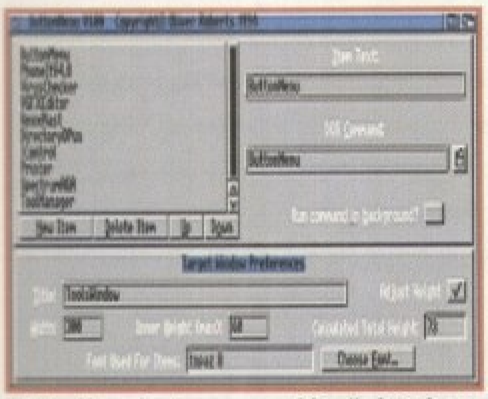
The Version command comes as part of AmigaDOS and its primary use is to inform the user of the version of particular libraries.

WB-Version, however, is a lot easier to use and provides the user with more information such as version number, author name, file name and date, and not only on libraries. For it to work properly the programmer of the file being checked needs to have included the above information, which many do.

WB-Version is primarily of use with ToolManager and users of this excellent program can simply assign it as a dock icon and then drag the file to it.



Scrap the old Version command and replace it with the all new, all singing WB-Version



ButtonMenu features a user-friendly interface allowing you to create menus with ease

ButtonMenu

Author: Oliver Roberts
Workbench 2.0 and above

ButtonMenu is a neat little program that allows you to assign programs to a button interface. This means that rather than having to root through directories in order to find the program you want, you can simply click on a button to load it.

The actual ButtonMenu program allows you to define your own button menus which you can then activate with the BMX program included in the same directory as ButtonMenu. If you can't see it, select Show All from the window menu on Workbench.

When you load ButtonMenu the control window will appear with a series of gadgets. To create a new button simply click on New Item, at which point (new) will appear in the button list. Now you can type in a name for the button in Item Text and also select the program you wish to load by typing its name or selecting it from the DOS Command gadget.

At the bottom of the display you can allocate a title for your button menu and also change the width and height of it when it is eventually run.

If you choose a width or height that is less than the dimensions needed by the buttons, a requester will appear informing you of the error.

Once you have created the menu and saved it, you can run it by calling its name with the BMX program. To do this from the Shell, change the directory to that of the BMX program and type in:

```
BMX <path><button menu file name>
```

If you typed in the command correctly a window should appear containing the buttons you created in ButtonMenu.

Eventually, through a process of elimination, you will be presented with the possible cause of the problem and its part number so that you can phone up your local Amiga repair specialist and tell them exactly what the problem is.

Shareware notice

Please remember that these programs are shareware and if you like them you should support the author by sending in a shareware donation. Check out the on-disk documentation for more information.

ECSDiagnosis

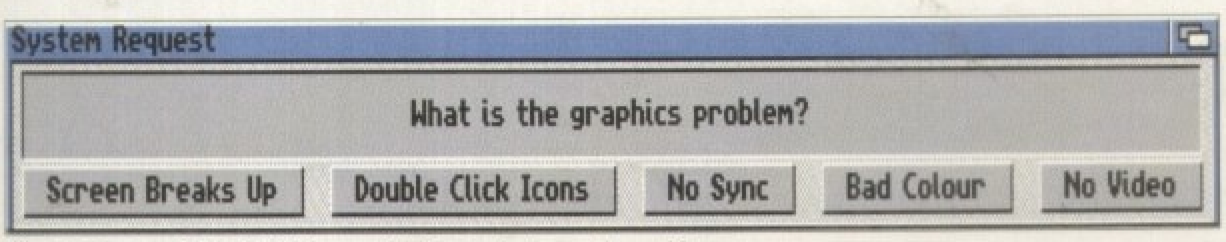
Author: Charles Clayton
Workbench 2.0 only

If your Amiga develops a fault it can be extremely worrying – especially when you know nothing about computers and how they work.

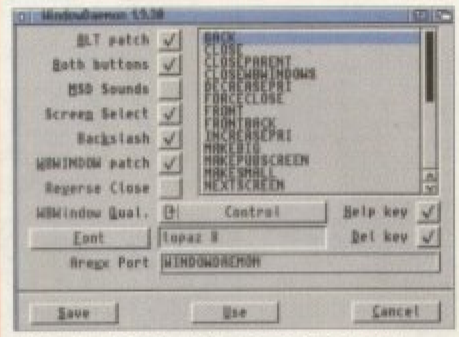
Fortunately, Charles Clayton has come up with a great program that acts as a diagnostic utility to help you pinpoint the particular cause of a problem.

When Diagnosis is run, a window appears at the top of the screen featuring a collection of buttons, each with a different heading. If you look closely at these buttons you will see that they cover certain elements of the Amiga that are prone to damage.

By selecting the primary characteristic of the problem you are then taken to a new set of buttons which will allow you to further define the nature of the problem.



No job's too tough for this little guy. ECSDiagnosis knows the problem



WindowDaemon will allow you to take total control over your Workbench

WindowDaemon

Author: David Swasbrook
Workbench 2.0 and above

WindowDaemon is a very powerful program that allows you to alter the way in which Workbench screens and windows are handled.

When you load the program it will appear as if nothing has happened. Run the program again and the WindowDaemon interface will appear with information about the program. Click on the Settings button to customise WindowDaemon to your own preference.

The WindowDaemon settings window may look complicated but everything is fairly self-explanatory. If you double-click on the parameters present in the list, information about what that specific command does will appear, and you will be able to attach a hot key to it so that you can invoke the command automatically.

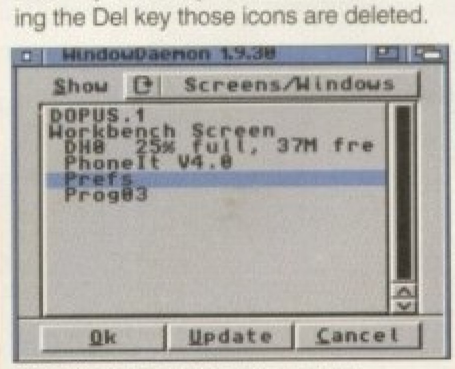
What now follows is a brief description of the more important tick box buttons and what they do. For a full list of the commands please refer to the on-disk documentation:

Screen Select – when selected, this option will allow you to flip through the presently opened screens and windows by right-clicking in the close screen gadget at the top-right of the Workbench screen.

Both Buttons – this option will allow you to bring windows forward by holding down both mouse buttons on the window you wish to bring to the front.

Help – by clicking once on any icon and then pressing the Help key, the icon information window will appear.

Del – by selecting icons and then pressing the Del key those icons are deleted.



With WindowDaemon you can even swap between screens and windows

SoftWood Software *will go down in history, the best there's been... for ages.*



The way we all communicate today has evolved through centuries of development and change. Prehistoric man set the ball rolling when he used cave pictures as a means of describing his hunting conquests. Probably the most famous of all 'picture writing' techniques was that used by the Egyptians. Known as Hieroglyphics, which means 'sacred carved inscription', this ancient form of information technology quickly spread to all parts of the Mediterranean region. Gradually pictures were rationalised and both numbers and letters were eventually formed.

The Greeks were the first to use these letters in a way that is familiar to us all, and they in turn passed this knowledge on to the Romans. It was then that an alphabet was formed using only capital letters; the basis of most of today's languages. Inscriptions in stone, often filled with lead or bronze, eventually gave way to clay tablets, papyrus and ultimately parchment (treated animal skins). By AD 100 parchment and papyrus books were being created. Another 600 years passed before books began using capitals for headings and small letters, known as 'half unicals', for the main body of text. Although still made by hand, pages were easier to produce and became far more legible in the process. It was the mid 15th century before sets of small interchangeable metal letters were arranged, inked and pressed against paper to form an impression. The start of a printing process that was a less labour intensive way of spreading the written word was here. It was so successful, that with continual refinements, it remained the industry standard until the 1950's. Since then, the process of off-set litho printing has replaced 'hot metal type'.

The biggest leap in the presentation of languages has probably been achieved in the last ten years. With the adoption of computer generated text as a new standard, complicated layouts can now be designed and printed at the touch of a few keys.

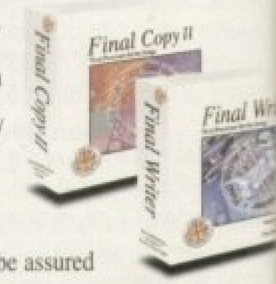
And it doesn't stop there. Archiving and record keeping works hand in hand with these new methods of processing text and allows far faster methods of data retrieval than ever before. This latest technology has revolutionised the world of print, and has opened the door to an explosion of communication possibilities.

*At SoftWood our constant aim is to provide **you** with the most powerful and up to date software possible for your specification of Amiga.*

Our word processing packages have repeatedly won the favours of magazine reviewers, who have awarded SoftWood products their highest accolades, all over the world. We are continually updating and improving those products and adding new ones, such as Final Data™, to our range in our endeavours to bring the revolution into your home... and onto your Amiga.

Word Processing/Publishing...

Whatever specification Amiga you own, SoftWood have the perfect solution for your requirements. ***Final Copy II*™ *Release 2*** is at the peak of achievement when running a twin floppy based Amiga configuration, whilst ***Final Writer*™ *Release 3*** is the only hard drive compulsory Amiga word processor - it leaps a stage ahead and doesn't make any compromises to be floppy disk compatible.



Whichever you choose, you will be assured of the latest in WYSIWYG technology and reap the benefits of still unsurpassed, easy to use, SoftWood Amiga software.

Our new Database...

The latest addition to our family, ***Final Data*™**, is designed in the true SoftWood tradition and brings you a program which is not only extremely powerful, but also very easy to use. Indeed, you can learn to set up your ***Final Data*™** database, enter your information and print the results in a matter of minutes... not hours. You'll soon be generating all kinds of reports and label print runs to suit your kind of work.

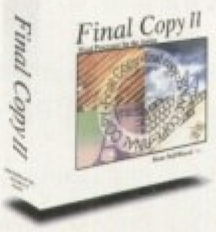


SoftWood Direct

bringing the revolution into your home... and onto your Amiga.

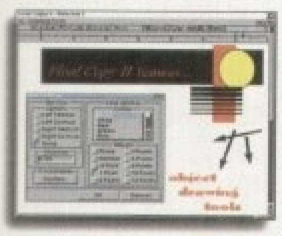
SoftWood Products Europe, New Street, Alfreton, Derbyshire. DE55 7BP. Telephone: 01 773 521606 Facsimile: 01 773 831040

Final Copy II™
Release 2



Designed to get the most out of an Amiga twin floppy drive system, ***Final Copy II***™ offers more than just word processing (at which it naturally excels) and opens up a world where 'how the document looks' is as important as 'what the document says'. ***Final Copy II***™ is ideal for that quick letter but also has powerful features that produce end results that you'd normally associated with Desk Top Publishing packages - easy to achieve, without the fuss!

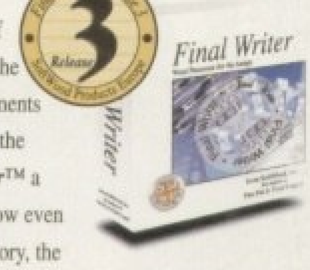
Unique features such as **FastDraw**™ on screen drawing tools (to generate boxes, borders, lines and arrows etc.) and **PerfectPrint**™ (a system that enables you to print Postscript™ outline fonts to absolutely any printer in



both landscape & portrait modes) ensure that ***Final Copy II***™ is the leader in its class. You can easily create multiple newspaper style snaking columns, import any graphics objects or pictures (and place them anywhere on your page), scale or crop those graphics and also auto flow text around them. You can even print text over graphics and the output is always of the highest quality. ***Final Copy II***™ offers the perfect balance between word processing and more advanced page layout generation - in one great program. Ease and speed of use combined with total control of the final printed presentation is available on your floppy based Amiga system right now for only ***£49.95*** *inc. p&p.*

Final Copy II™ requires an Amiga system with twin floppy disk drives or a hard disk drive and a minimum of 1Mb. free RAM (A600 hard drive - 1.5Mb). Flexible and practical from floppies; no installation or multiple disk swaps required.

Final Writer™
Release 3

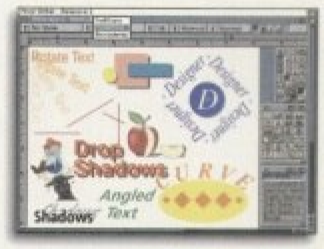


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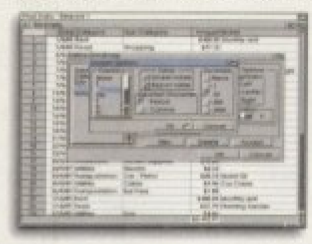
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Termite

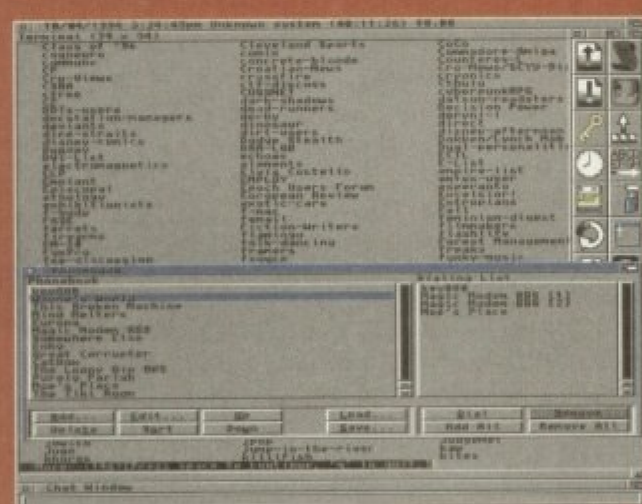


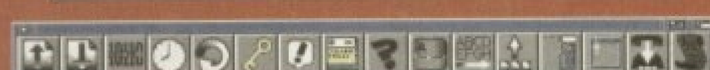
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- Configurable text macros.
- Support for multiple line BBSs.
- Fully ARexx programmable for complete automation. Assign your scripts to the button bar or install them as a menu option.
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- Completely font and screen sensitive. You choose the font and screen mode and Termite automatically adjusts everything





the Termite Button Bar

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All the might of...



...Termite. Phil South looks at a terminal program to destroy all others

Comms programs, give or take a few here and there, are all so-so on the Amiga. For a long time all my comms was done using NComm, because it was simple and solid and basically everything else was a bit tricky.

NComm is a great program but it does take a little time to set up, although once this is achieved it flies along. Most of the PD comms programs are okay, but they lack a certain stability and because they were written when it was the in thing to have a colour computer, they all have too much colour in them and are too slow. There are a few commercial offerings, but they are all getting on a bit in years, and most of the ones I've tried are either too big and unwieldy or lack documentation, or indeed both.

Aiming to get around this is Termite (a trick name but we won't hold that against it), which is written by Oregon Research and marketed in the UK by Amiga old-hand Hisoft (which is of course usually known for its programming tools like C and Basic compilers).

Termite is billed as "so easy to use that even a first time telecommunicator will feel at home", and "designed to take full advantage of all the newest features of Workbench 2 and beyond." Does it slice bread and make tea, too? With claims like that we'd better hope so. The blurb talks a lot about the Information Superhighway (oh not again, pass the sick bag for goodness sake) and how the program is 100 per cent style-guide compliant. This is not necessarily a plus point, depending on what you think of Commodore's Amiga style guides.

The program copes with speeds from 300 up to 115,200 bps, supports standard Amiga XPR libraries and external XEM external terminal emulation, but it has ANSI and VT-102 emulations built in. I have yet to find out what this means, but I can only guess that it refers to the fact you can bolt on new terminal emulations as they arise. Presumably this means you can download new terminal emulations from BBSs, perhaps even a Prestel-compatible one. (Hey, is Prestel still going? Ugh.)

The program is, as far as I can see, virtually plug-in-and-go, as I had it up and running within a few minutes, which for a comms program is surprising to say the least.

The screen shots on the box show the screen to be a huge muddled mess, although in reality this is probably an attempt to make the thing look busy and powerful to the casual purchaser. In fact in real life, the screen is clean and uncluttered – clutter can be brought in if you desire it. The keynote of this program is configurability, and you can transform in a number of interesting ways to suit your taste, which we'll go into a bit more in a moment.

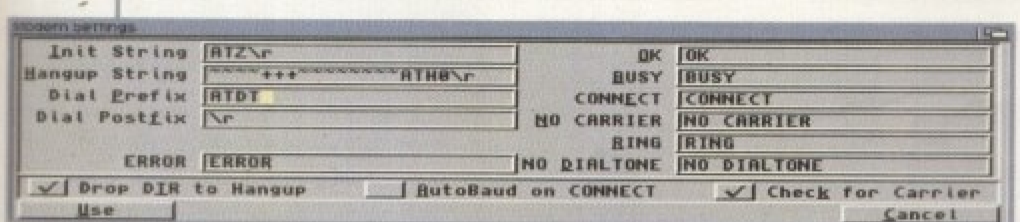
Most terminal programs have a scrollback which is a method of looking back at what has previously scrolled up the screen. In Termite this is called the review buffer, presumably because you can review the contents of the buffer as you go along. When text appears on the screen it is also fed into the review buffer, and when the review buffer is ➤



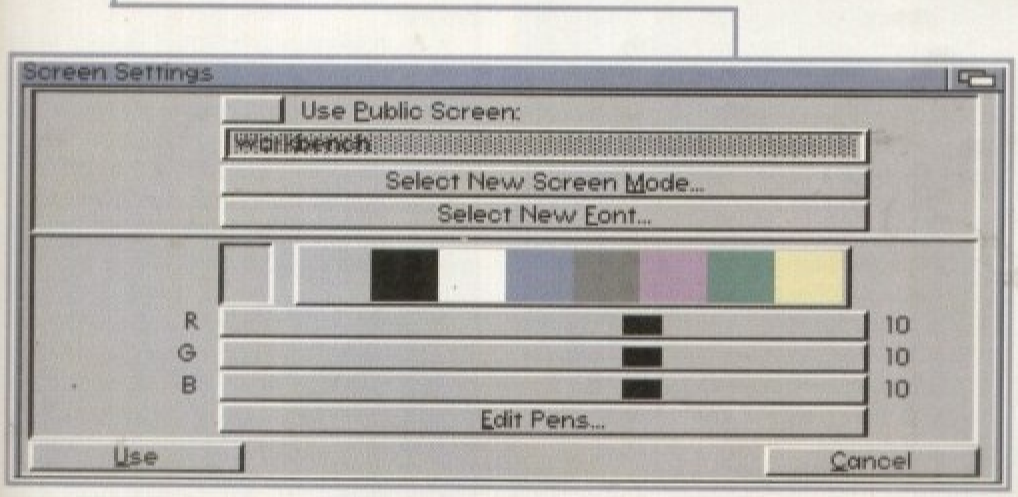
The start-up screen showing the user-configurable buttons



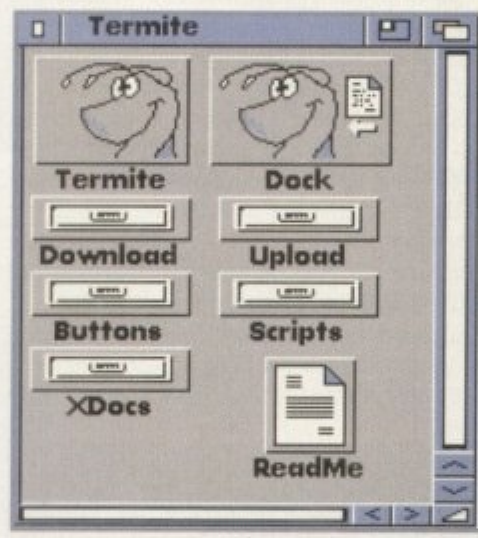
The set-up settings for the serial port...



...and for the modem



You can set up colours, fonts and screen modes for the terminal screen



These are the empty directories to use for uploading and downloading

➤

active the title bar will tell you the line number of the top line plus the amount of lines in the buffer, like so:

Review Buffer (30/234)

with the first number being the current top line and the second being the total lines in the buffer.

You can use the cursor keys to go up and down the buffer line by line, or you can press shift and a cursor key to whiz along a page at a time. You can also use the scroll bar at the side of the window to scroll along – the program is System 2.x compliant after all!

However, the best part about the buffer is it can be cut and pasted, both within the program and to other programs – provided the machine isn't switched off between cut and paste. You can also do a text search of the buffer, which is handy if you saw a piece of text go by but you can't seem to find it by scrolling back and forth through the last 2000 lines of text.

Obviously, you can set the length of the review buffer, and the proper size will become apparent after a few uses. This is not a replacement for a capture buffer but more of an emergency measure, in case you didn't anticipate seeing anything on screen that you wanted to save.

One of the most useful features of the program is the ability to record scripts. Scripts are a good thing but some poor sod has to write them, which in most cases is you. Most of us are a bit shy of scripts, and we eschew them in favour of doing everything manually because it's less bother than learning the arcane script language the program uses.

This has been solved in Termite by fitting a script recorder to the program, so when you activate the script record menu item, you can record your logon script simply by doing it manually. Then you set this as your start-up script so that every time you log on the program will repeat what you did the first time.

This is an invaluable time-saving measure, as it enables you to create script files for every new service you encounter, rather than just those that follow a strict USERNAME/PASSWORD format. Other options for the more technically minded are the usual macros, plus the program is ARexx programmable and you can even assign your own custom scripts to the button bar.

Speaking of which, another customising job you can do on the program is to adapt the user configurable floating button bar. This is a bar along the bottom of the screen which contains buttons to press for frequently-used functions.

ASSIGNING

Not only can you choose the functions these buttons perform, but with user configurable graphics you can also change how they look. You simply assign a graphic to a button and then every time you boot the program that graphic will be on that button. When I said this program was configurable, I wasn't kidding.

Like most terminal programs on the Amiga, you also have call logging, a multitasking chat window, and of course all the screens are font sensitive. All your system fonts can be used in the program, like the rather thin and spiky font I used before I did the screen shots. I think something more standard would be better, like Topaz for example, as it is the most readable font at a small size.

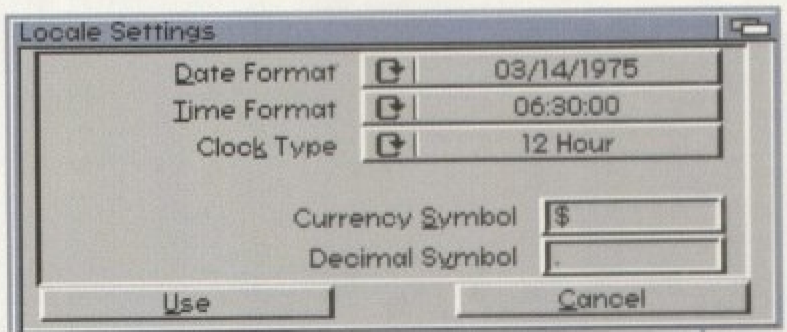
The most useful feature I found was the comprehensive manual. It's a tidy little spiral-bound booklet which clearly and simply states all the facts you might need to know about the program. Its index actually points you to every feature you might be looking for, and the page numbers are all correct.

Sounds elementary, but anyone who's read the Lightwave manual will tell you that it's not guaranteed by any means. The illustrations are few, but when they do appear they are readable – yes I know they are pictures, but there's a lot of text on the screens! – and appropriate.

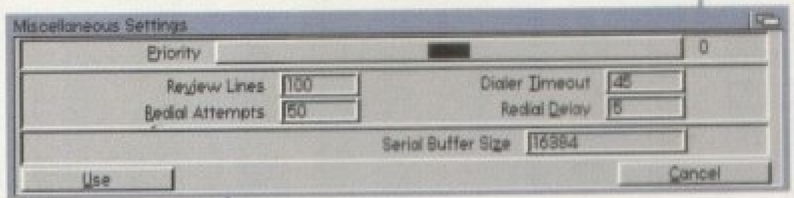
This is one of the best manuals I've seen for a long time, with the DeluxePaint 4 and Wordworth manuals sticking out in my mind as previous holders of the title. A good manual is all important (see Lightwave again) as it can be the making or breaking of a program.

A good program with a bad manual might as well be a bad program and a half-good program with a good manual seems like a great program. Unless people know exactly how to use a piece of software they might as well not bother. The Lightwave manual and all versions of the Imagine manual, with the possible exception of the last one, are examples

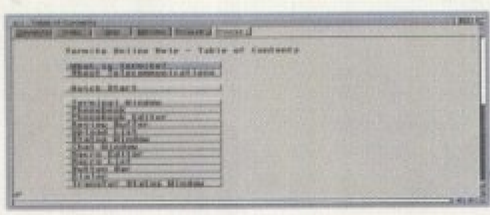
The program requires 1Mb RAM and Kickstart 2.04 or greater, which means either an ECS machine or an upgraded 1.3 machine as a minimum, and a 1200/4000 as a maximum.



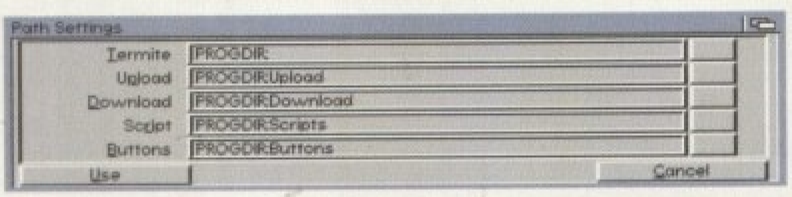
You also have the ability to alter the currency symbol and date for the locate



The miscellaneous settings allows you to set the dialer info and the number of lines in the review buffer



This window gives you on-line help for all your queries and problems



The path settings screen allows you to set up paths so that files know where to go

The Internet

There is a lot of talk about the Internet, and it is a natural assumption that this program will link you up to the Internet and off you go. Well no. You need to get an account with a service provider, and this means that you will be able to link to their computer and access the Internet.

Both CIX and Delphi will allow you Internet access in a text-based form. Of course, a full Internet connection will mean you have to use TCP/IP, which unfortunately isn't one of the terminal emulations supplied. You can of course get free TCP/IP software when you join an Internet service provider, like Demon, which has Amiga based TCP/IP software.

Worthy of the name?

Termite is a great program and although it did have one or two interesting bugs in it when I tested it, I have reason to believe that my set-up was at fault rather than the program. One fault locked the program and everything I clicked on vanished until I was left with an empty button bar and an empty screen – it may have been a catastrophic screen grabber failure as I was grabbing screens from the program at the time.

Either way, the program looks to be pretty stable, and the interface is as cool and configurable a front-end as you could wish for. I don't really like system interface guideline-compliant stuff as it used to look smart – now it just looks old fashioned. I prefer interfaces like Lightwave which use the system but do something more interesting with it.

The claim that a beginner could get the program up and running is true. You would need to read the manual of course, but in this case it is so well laid out and readable that it guides you through installation and use whether you know anything about Amigas or not.

The manual is ring bound too, so it even stays at the page you opened it to, unlike some hardware manuals which make you try and follow steps involving both hands which means the book snaps back together making it hard to read the page.

All things considered, I think Termite is a powerful and useful program and although you can get something similar in the PD, you might not want to undergo the steep learning curve which most PD programs offer free as part of the package. If instead you want to be up and Internetting in about 30 minutes after opening the box, then this is the program for you.

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Wallace, Gromit and the Amiga



Adam Phillips travelled to Aardman Animations, one of the world's premier animation companies, to find out why the Amiga is at the heart of their art

From the high-browed Oscar ceremonies where Nick Park enthusiastically and oh-so-Britishly accepted his award for 'The Wrong Trousers' to the ground-breaking, award-winning Peter Gabriel pop video 'Sledgehammer', Aardman Animations have carved a reputation for producing both critically and publicly acclaimed commercials and animations.

If you're sitting, lying or standing reading this, you may well be one of the decreasing few who have never heard of Aardman Animations. If so, it's guaranteed that you've seen a piece of their work – whether it be the roller coaster ride of the Crunchie commercial, the Chewits monster on the rampage through New York, Frank the Tortoise in the Total Heating advert, or the little fellow with the noisy trombone in the Lurpak ads.

With two Academy Oscars firmly gripped in both hands, the company, along with a variety of other projects, has now embarked on the third film in the Wallace and Gromit series, 'A Close Shave', under the imaginative vision of Nick Park and his animating team.

Requiring high-precision skills and speed to complete the film, in the last six months the Amiga has found itself a secure home at the Bristol-based studios. While not actually creating the images – that's up to the model makers and a serious amount of plasticine – the seven A4000s are being used during ➤



The award winning Aardman-made pop video for Peter Gabriel set new standards and refreshed the music video-making market – especially with dancing rubber chickens



Glenn Hall, technical director for Aardman Animations, with the Amiga system that helps produce the animated films

shooting to aid the animators in seeing the fruits of their labour come to life with the mere click of a button.

One of the main problems for animators using stop motion is the accuracy of objects, lighting and sets from frame to frame. The old method of checking how well a scene was cutting together was to use an industry video recorder. This led to a series of problems as the tape was not always frame accurate – a blank frame would appear here and there, frames overlapped others, and it was difficult to re-edit a scene quickly. In the worst case scenario, the tape itself could be chewed.

Glenn Hall, technical director for Aardman and the man behind the computer set-up, commented: "Animation is amazingly technically complex. The reasons why we use computers is because we couldn't do it any other way. The other reason is that they, in conjunction with PLCs (Programmable Limit Controllers), are fundamentally mistake-proof because it's a sequential task. Do this, do that, do this a bit, go back and do it again with different lighting and you often get a sequence that you want to repeat a number of times. What the animators like to have is a row of buttons to press."

ACCESS

Enter the Amiga, coupled with Digital Processing System's acclaimed Personal Animation Recorder. Glenn Hall and his technical department have produced a series of 'tower' units designed by Allan Yates, each having two monitors – one that displays the animation, the other the PAR controller screen – an A4000 and a Panasonic Digital Frame store. Hall's team has managed to merge all the miles of wiring into a single interface to help the unit be as accessible as possible to untechnical users.

Hall said: "We realised that there's a lot of equipment in this set-up and we're constantly moving it around, so we've taken a considerable amount of time to make it portable."

The process being used for *A Close Shave*, the third instalment of



Morph – Aardman Animation's first television character produced in 1976 for the Tony Hart art programme on BBC1. Glenn Hall: "Animators love to do him because Morph's the perfect animation character – very simple and very expressive."

Who can forget the rampaging creature whose appetite is only quelled by a pack of Chewits?



"It's changed the way we work because it's so quick and so accurate – it's just a pity we can't get hold of the kit at the moment"

Tristan Oliver, one of the lighting cameraman for The Wrong Trousers and A Close Shave on the subject of the Amiga

Wallace and Gromit, is very simple. The animator sets up a frame to be filmed. He then grabs it with a Digital AV mixer that allows the animator to compare the current and previous frame to check for any immediate inconsistencies in character action or lighting.

Once happy, the image is grabbed onto the PAR and the whole scene can be played back to see if the sequence meets the director's approval. If given the thumbs up, the lighting cameraman shoots the frame onto 35mm film and the process begins all over again. If something doesn't work, the animator can simply delete the frame and have another attempt.

One of the lighting cameramen for *The Wrong Trousers* and *A Close Shave* , Tristan Oliver, is very taken with the system. "It's very good... the animator can have an immediate idea of what he is doing... another very valuable feature of the Amiga is the loop facility so you can loop the shot over and over again without having to find the beginning or the end. Then you can pick up the cursor and run it backwards and forwards at any speed you like." Oliver added: "It's changed the way we work because it's so quick and so accurate – it's just a pity we can't get hold of the kit at the moment."

This enthusiasm is echoed by the various members of the crew throughout the production. Steve Box, one of the key animators on Nick Park's latest feature, remembers the previous tape-based process and "wouldn't want to go back to that old system."

The Amiga's involvement with Aardman Animation doesn't end there. For those who enjoy their commercials, you can't have failed to notice the Crunchie advert with that stick-in-brain tune. Featuring stop-motion animation and constant camera movement as the characters jet off into space and take a ride on a roller coaster that makes The Big One in Blackpool look like a kindergarten play thing,

Well 'Aardman

The process that Aardman Animations specialises in – stop motion – is one of the most time-consuming and difficult methods of creating a moving image. Like any production, the film starts life as a script. If it's a commercial then it's provided by the creative agency working for a particular product's manufacturer.

The next stage is the storyboarding where the words are turned in to a shot by shot breakdown. Animation requires even more painstaking planning than film – every camera move must be thought through, every facial, hand, foot and object must be individually catered for on paper to minimise any possibilities of mistakes cropping up at a later stage.

The storyboard is then shot directly onto video into what is called an animitronic, which gives an even clearer view and idea of the structure and flow of the shots.

Then comes the model design and making. It's not uncommon for a model maker to spend several days at work on a particular character, moulding and shaping the plasticine round a metal frame, then have a client turn round and say, "No, I don't want that anymore."

Once all hurdles have been cleared, it's onto the shooting itself. Like cel animation, as seen in Disney films, the animator must shoot each frame individually within a scene. Just take one second and you're looking at 24 frames. Within those frames the characters, objects and sets that alter or change will require to be moved frame by frame. A 30-minute feature starring Wallace and Gromit has up to 43,200 frames.

Aardman's strategy at the moment is to make the lengthy shooting process as speedy and efficient as possible. On the wall of the production office, a colour-coded schedule has been created for each day that dominates the room with its comprehensive breakdown of shooting times and dates.

On 'A Close Shave', the number of animators working on a production of this scale has risen from two to four, each working with the PAR card and Amiga.

With the ever-increasing shooting speed, the company hopes to be producing a full-length feature in the next five years as stop motion animation becomes more and more popular. Tim Burton's 'A Nightmare Before Christmas', which incidentally was worked on by Loyd Price, an animator at Aardman, has wetted the cinema-goers' appetites for more and, with the Wallace and Gromit cult following, the potential for a box office hit seems assured. The final frame count for 'A Nightmare Before Christmas' illustrates the time needed for such an undertaking – 108,000 frames. Count 'em and weep.

the actual process to produce such a complex visual feat was helped by the Amiga.

The commercial features seven levels of matting that make up the background, midground and foreground, and a whole lot more besides. One Amiga was used for feeding in the previously-shot background. This gave the animator a reference point to help him lay another level of matting on top, for example, in the mid- ground. The animator, in this instance Tom Gasek, was able to see an image that would look something like the end product.



Wallace and Gromit make their first appearance in A Grand Day Out.

Once happy that the two particular layers were lined up correctly, Gasek would tell the operator, Pete Wignall, to record the frame on one Amiga and then move the other Amiga on to the next frame. The process then begins all over again. Once a scene had been completed, the two separate layers would be loaded into a Macintosh and, by using its software, matted together to create a single image. That image would then sometimes have other layers added to it using the process described above. Simple eh? Hall says that it gets "pretty complicated" at times, but that's an understatement from where I'm sitting.

With the Amiga providing such invaluable facilities, can there possibly be a problem? Well, unfortunately yes. Like many television and film production companies, Aardman have found it nigh on impossible to get hold of new A4000s. While I was there, it was apparent that the Amiga systems were very much in demand, with the portable units being wheeled back and forth at a remarkable rate between different sets.

Besides that, though, Aardman Animation is pleased with its current computing set-up. Indeed, with Glenn Hall's enthusiasm for computers, there have been talks about moving further into multimedia CD-ROM. Hall commented: "There's been a lot of interest in other media. It's becoming more obvious that other forms of publishing are creating new ways of doing things."

Perhaps we'll be seeing Wallace and Gromit presenting on the Amiga soon...

'Aard as nails

Well, not strictly true. Indeed, the questions listed below shouldn't cause any real problem for a true fan of the series. There are three Wallace & Gromit T-shirts up for grabs, so scribble out the four answers to the questions posed and the first out of my wrong trousers (the brown corduroy ones) can walk down the local high street clad in an Aardman T-shirt.

- Which animated film made by Nick Park was nominated for an Oscar but did not win?
- Which animated short won instead?
- Why did Wallace and Gromit fly to the moon in a 'Grand Day Out?'
- Did the penguin in 'The Wrong Trousers' ever speak?

Send your entries, written, typed or bled to: *Adam Phillips, Well 'Aard Compo, Amiga Computing, Media House, Adlington Park, Macclesfield, SK10 4NP.*

An interview with Mr Park

This just isn't on. Here's a man who has a renowned talent for animation, has won more Oscars than most major actors, has had offers of work from many a major studio in Hollywood and yet somehow, through all this ego-bolstering acclaim, Nick Park is not an arrogant, fussy or tyrannical star suffering from disillusions of grandeur – he's a person who would fit in at the local pub as the quiet, nice bloke sipping on a pint of Boddingtons and amusing people for hours with his strange stories of a moon made of cheese, an exasperated dog and a villainous penguin abusing the wrong trousers.

Amiga Computing caught up with this most British of gentlemen as he finished another shooting day on the latest instalment of Wallace and Gromit, to ask him a few questions on the past, present and future.



Nick Park and Gromit – inseparable: "I basically choose the things that appeal to me the most and I think that you know what those are after many years"

Where did your interest in animation come from?

It goes way back really to being 13-years old. I was always interested in art and drawing cartoons and, at the age of 13, I started playing with my parent's cine camera. It was a standard 8mm and it had a button on it to do animation. In other words, it could take one frame at a time instead of running continuously.

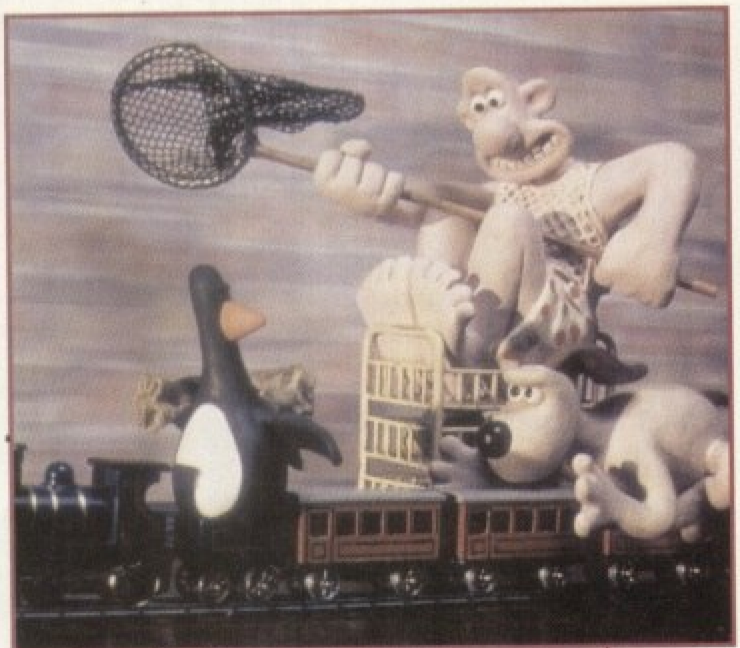
Being interested in cartoons, my dad, a photographer, had heard of the principle of how animation was done. So, not having read anything or seen how it was done at all, I just had a go. I animated anything – plasticine, household objects, cups, whatever.

Where do the characters like Wallace, Gromit and the penguin spring from?

Most of the characters started back at art school really when I was doing sketches in sketch books. I used to try and think of ideas for children's books, stories and films at college. Later on I went to the National Film and Television School at Beaconsfield and needed a couple of ➤



Model-making is a painstaking process that requires an eye for high-quality detail



The Wrong Trousers, the sequel to A Grand DayOut, has recieved international acclaim. Their characters were drawn up many years ago in Nick Park's art school sketch book.



Creature Comforts detailed the individual stories of animals incarcerated in a zoo, and won an Oscar in the process



The award winning Total Heating advertisement campaign featured Frank the Tortoise, among other creatures, talking about the rather beneficial heating systems in true Park-style

characters for my graduation film.

I went back to my sketch books and took those characters from there really. They evolve over an enormous amount of time, and ideas suddenly hit you. It's funny how a lot of the things in the films actually do come from these old sketch books, even now. It's as if they're in the back of your subconscious.

I basically choose the things that appeal to me the most and I think you know what those are after many years. Drawings seem to come to the surface – penguins have been a dominating thing that I've always liked to draw.

Can you ever see yourself working in live action films?

If the right kind of opportunity came along, who knows? But no, I think I'll stick with animation for the time being. I feel that there is so much to do in this area and feel most at home working on this scale.

While you use computers to aid in production, do you see computers as a good or bad thing for actual animation?

I see them as a good thing. We don't want to be left behind or be a stick in the mud. We use it in a way to aid us, to do this more conventional form of animation, but to me it just opens up the areas available to people. I'm sure computer animation is going to be very much the future.

Do you see yourself using computer animation at some point?

I don't know. The only thing I would say about using traditional techniques is it's tactile, hands-on, and you can control things so immediately and directly.

I'm sure computers are going more in that direction but I don't know whether one will always be looking at a screen. I've talked to computer animators who seem to envy that we can touch what we're looking at.

At some point in the future, I'm sure the computer will be able to do all the things that are good about our handmade techniques. So much depends on the human feel and the computers need to be more responsive in that way.

How do you feel about the computer animation you have seen?

I don't want to put computers down, but there is an over-use of camera movement in some of the computer animation I've seen. It's so hard to do a camera move using our methods. We're using computers to help us, but it still takes a while to work them out and get them right. It tends to make us disciplined in our use of camera moves – we don't do too many.

Because you can make the camera fly all the time with a computer, there is often a lack of that discipline, so the shots



Steve Box,(right), Park's co-animator and key player in "A Close Shave", adjusts Gromit for a shot in the latest film

become meaningless because camera moves are not being used for any reason – "Because we can do it, we'll do it". I'm sure this attitude will wear off and people will start using them in a more discriminating way.

What are you working on at the moment?

We're working on another Wallace & Gromit film – it's called 'A Close Shave'. It's an action thriller like the last film, but this time there is also romance in the air for Wallace.

There's a woman in this one called Wendolene but I can't really say much more, we don't want to give the gags away.

Have studios tried to poach you from Bristol to go to Hollywood?

Yes, there have been offers from Holly-



wood. Most of the major studios have taken an interest in my work. It is common knowledge that we have been talking particularly to Disney for a long time, but we haven't yet set anything up.

They seem to be keen on us staying here which we're more than happy to do really. We can't imagine shifting over there and I think they seem to like the British sensibility that we have. They have been very wise in seeing that if it's done here, that's what you get. Also, I think it's the humour they're interested in as well.

Where do you keep that flock of Oscars?

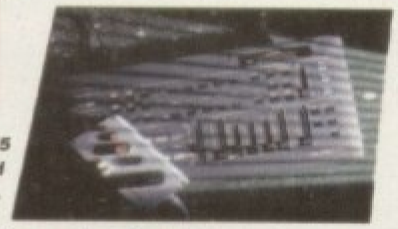
They're upstairs in the canteen. They come out once in a while to show to people.

Expect 'A Close Shave' on your television screens for Christmas '95.

Amiga makes it easy

Detailed here is the shooting process for a single frame of animation incorporating the Amiga and Wallace & Gromit.

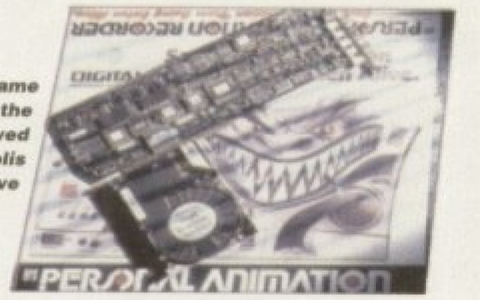




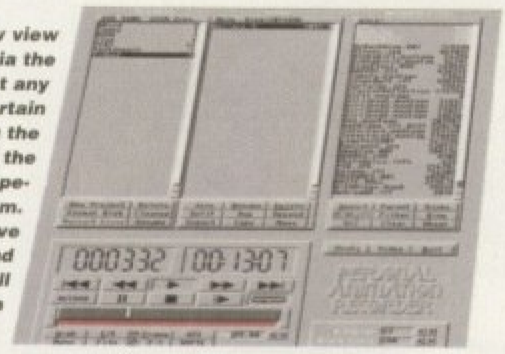
The Panasonic AVE5 Digital AV Mixer is used by the animator...



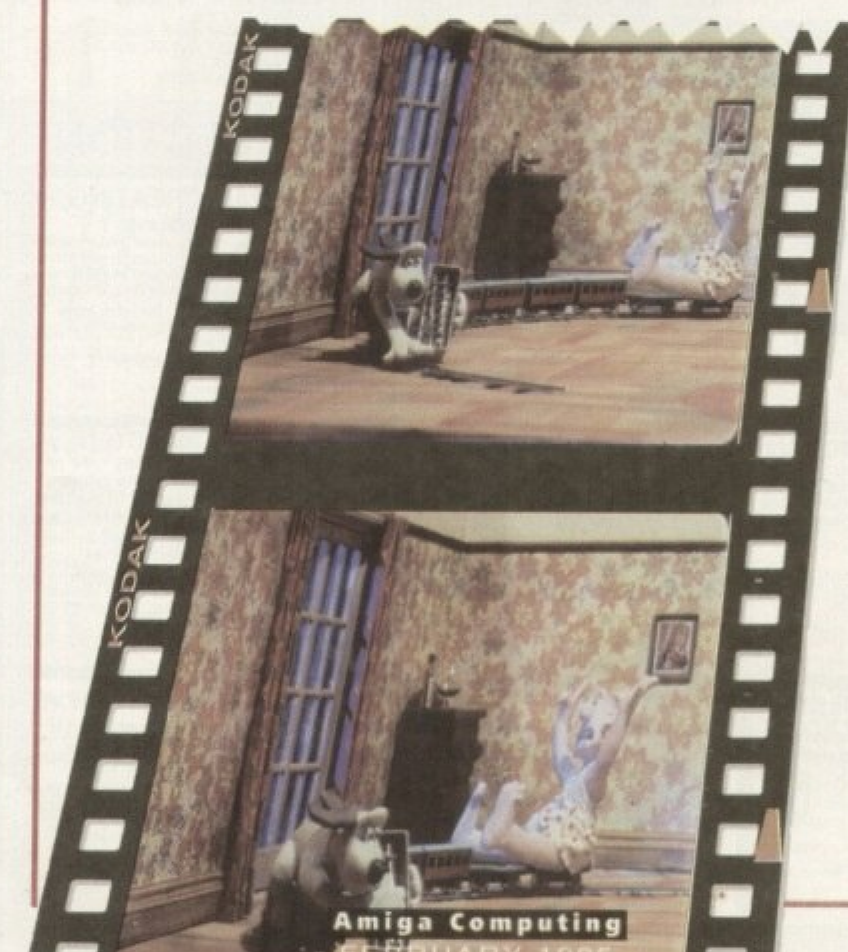
... to compare the previous and current frames to see if they match in either lighting, set or character movement and consistency



If successful, the frame is captured onto the PAR and then saved onto a Micropolis 2217A hard drive



The animator can now view the entire sequence via the PAR card, play it at any speed or delete certain frames without running the risk of damaging the footage, unlike a tape-based system. Then it's time to move onto the next frame and repeat the procedure all over again



Wish list

In most paint programs a lack of support for animation or batch processing in the IP department would be a suicidal omission. Although this is exactly the case with Photogenics, an actual complaint would be nothing short of insulting considering the asking price and overall performance.

Both of the above would be very nice additions, and only time will tell if the planned pro version – which should arrive around March – will deliver this finishing touch.

Aside from that, the only element I'd particularly like to see would be full support for a range of RTG boards, thereby enabling paint and preview in full 24-bit rather than the fast Ham8 or 256 colours presently on offer. As for disappointments, the only real let-down in the existing software is the poor text handling. At present the program only offers support for bitmapped fonts which invariably look awful and quite simply let the software down.

Hopefully the planned free updates to registered users will soon solve the problem.

Redo revolution

At this point it may well be worth paying close attention, simply because you may not believe what you're about to read. Whenever you make any changes, whether they be IP effects added by a tool or over the entire image, a paint stroke or even a composition with a secondary, you're provided with an unlimited undo.

Basically you can apply as many brush strokes or image compositions techniques as you wish. Only when you actually fix the image will the changes become permanent.

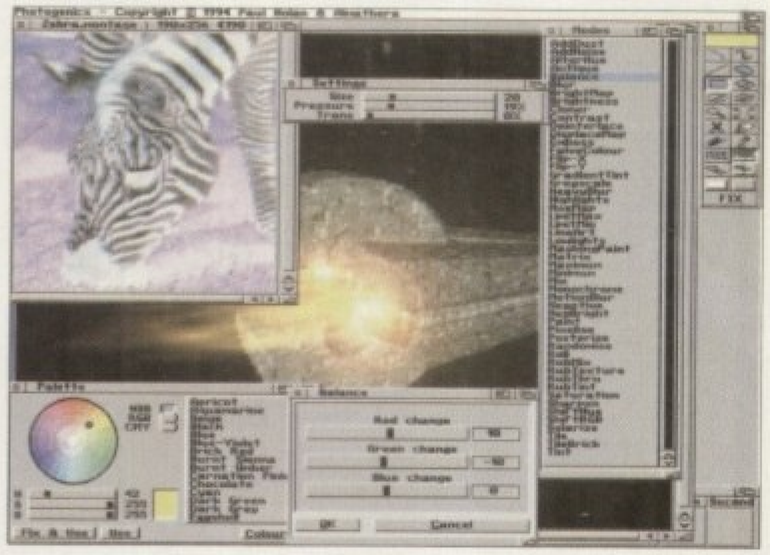
Obviously a nice feature, but what makes the program's undo and redo so special is its ability to freely interchange paint colours, IP effects or even brush styles. As a result it's not only possible to revert back to your original image, you can even swap the style of the changes.

For example, you could airbrush a negative effect on to a particular part of the image, but if that didn't work you could simply select another IP effect such as solarise and the existing negative brush strokes would instantly become solarised.

In short, this is the most creative and flexible approach to art and image processing I've ever come across on the Amiga. As you'll discover in the wish list section, Photogenics is by no means perfect, but even as it stands the program is simply invaluable for anyone running an A1200/4000 or a Workbench friendly RTG board.



Compositing images, either with or without an alpha channel, has never been easier



A massive collection of IP modes, excellent palette control plus an impressive array of painting tools with adjustable presets

processing power and compositing skills to entire images. However, full screen is by no means the only option.

Thanks to a seemingly all too familiar array of painting tools, image processing can now be drawn directly onto the image just as easily as paint. As far as I am aware, this is a unique feature which, regardless of the program's additional talents, sets it apart from the opposition.

The ability to airbrush an area selected with the IP effect of your choice quite simply makes Photogenics a must-have product for anyone involved in quality Amiga art.

As for the tools on offer, there's nothing unusual, with the exception of the nice touches such as tolerance fill and a particularly impressive smear option.

However, when these seemingly basic painting options are combined with the IP effects and composition options offered by the alpha channel, you quite literally reach a new level in creativity.

Having labelled the painting tools as being rather run of the mill, it's perhaps worth clarifying that even what appear to be standard paint program features still offer pro quality results.



For example, the airbrush is a true airbrush effect, and not simply a collection of sprayed-on dots. Secondly, the program also offers an impressive array of brush types such as airbrush, chalk, crayon, marker pen, pencil, felt tip, water colour plus others. In total there are a massive 13 assorted brush styles on offer.

In addition, each brush style has its own pressure, size and transparency settings for fine tuning the application of paint or IP effects.

Palette control has also been very well implemented with a full 24-bit palette on offer, even though the actual preview is limited to either fast Ham8 or 256 colours. Palettes can be loaded, saved and created as the need arises.

ALTERING

Better still, the palette requester also offers a use and fix feature which allows you to repeatedly alter the colour used during the last painting operation. The author has even added on/off channel selection for the RGB signals in the selected colour – Photoshop power at a bargain bucket price tag.

Due to the pure number of IP options on offer, I'll rely on the screen shots to provide a complete list. Needless to say, though, the list is pretty extensive.

My only real complaint is a lack of a visual crop option. Simply cutting a brush does have much the same effect, but nevertheless doesn't offer the accuracy many pro users will be looking for. As for control of the IP options, there are no complaints. All the effects that might require user-defined presets are provided with exactly that by a very handy mode control button on the tools panel.

Verdict

When it comes to image creation, composition and post production touch-up of either rendered or imported still images, Photogenics quite simply leaves all other IP and Amiga paint programs for dead. If you've got an AGA RTG-equipped Amiga you can't afford not to get a copy. A truly inspired piece of programming.

The bottom line

Product: Photogenics
Supplier: Almathera
Price: £54.95
Tel: 0181 687 0040

Ease of use	**10**
Implementation	**8**
Value for money	**10**
Overall	**10**

Spirit of the Pharaohs

Amiga animator Alternative Image has landed the work for a TV animation called Spirit Of The Pharaohs. Gary Whiteley finds out how and why it is carving its name on the walls of what could be a new Temple Of Doom

For several years the Americans have been grabbing all the big Amiga animation headlines. With quality shows like Babylon V, seaQuestDSV and RoboCop, it's easy to see why the combination of creative animators, Lightwave, the Amiga and US TV money could make a big mark on the schedules.

And with NewTek's guiding hand and enthusiasm for reworking its software to provide for the whims, fancies and needs of these creative types, Lightwave advanced by leaps and bounds alongside the programs it was helping to create.

However, until the Lightwave software was unbundled from the Toaster, there were very few UK or European users keen enough to shell out large amounts of cash just for the privilege of being able to run one of the world's best value-for-money 3D packages – Lightwave 3D and Modeller.



Since NewTek has freed its 3D software from the Toaster there's been a great surge in interest in Amiga animation, and evidence of this can be seen in the rave reviews and features that the Amiga magazines have been heaping on everything Lightwave.

One UK video, animation and Amiga company that has kept plugging away through the hard, pre-Lightwave years was, of course, Alternative Image, whom most readers of *Amiga Computing* will already be familiar with, if only for its Big Alternative Scroller titling products and its sets of texture maps.

If that's all Alternative Image did then I wouldn't be writing this piece on the company. What's especially interesting to me – and hopefully to you too – is that even during this time of uncertainty over the future of Commodore and its products, the team has been hard at work, producing two serious animation projects, at least one of which is slated to appear in BBC2's Graphic Action slot (that's the one after Star Trek) in the first quarter of 1995.

Because Alternative Image has always worked with the tools it considers best suited to the job in hand – and that don't always cost an arm and a leg – it took Lightwave on board to complement and expand its capabilities, rather than replace the Real 3D software which has been a stalwart – in fact almost a trademark – of its 3D production ever since it became available.

Apart from its undoubted modelling and animation power, the main reason for Alternative Image sticking with Real is that Art Director and boss animator, Henri Bujko, has extensive experience with this software and felt that completely jumping software platforms would be rather pointless, given that he would lose all the valuable wrinkles that he's learned with Real over the years and which help him produce work in his own unique style – work which has undoubtedly been impressive enough to help sway the powers that be into putting their faith in Alternative Image to produce both *Spirit Of The Pharaohs* and *Seven Wonders Of The World.*

I was curious about how Alternative Image came to be making these productions, and indeed *how* it was making them, and how the finished animations are turned from ideas into a





finished broadcast tape, so I went up to Leicester to meet Henri Bujko and Martyn Bibby, the Amiga animators producing the moving images for these projects.

I should mention that, like most commercial companies, Alternative Image is a little shy of giving away some of its animation techniques and, understandably, discussing budgets, so you'll have to make some inspired guesses of your own if there's not as much detail as you'd like in some parts of this piece.

Alternative Image isn't a big flash company with marble-clad offices and receptionists with perfect red nail polish fending off small-fry customer enquiries. It is a hands-on set-up in a terraced street in an older suburb of Leicester, but it's got all the computer and video production equipment it needs packed inside the premises.

DEADLINES

At the back of the building is the computer area, which is where I found Henri and Martyn hard at work on the two projects, now running side by side as delivery deadlines loom closer on the horizon.

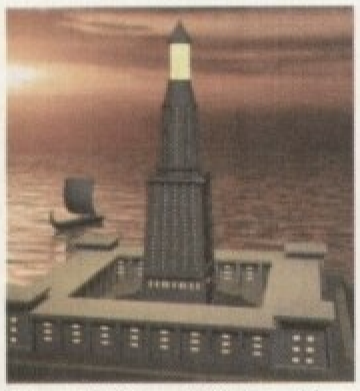
Around them are several well-equipped Amigas, piles of storyboards and artwork, software packages and disks, with scenes being either set up, rendered or transferred to a DPS PAR (Personal Animation Recorder) – the first destination for Alternative Image's Amiga animation output. The PAR has now completely superseded the previous Simpatica/Hi-Band SP U-matic single-frame system as an animation recorder, because of its speed, quality and convenience.

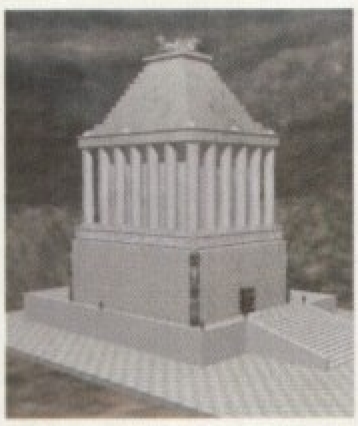
Both the current animation projects (Spirit Of The Pharaohs and Seven Wonders Of The World) came to Alternative Image in a slightly roundabout way.

Independent producer Terry Jervis, who has jurisdiction over the Graphic Action slots, mentioned his nascent Spirit of The Pharaohs project to Mike Adams, a Leicester-based sound and music producer, and asked if

Seven Wonders Of The World


Temple Of Artemis at Ephesus


Pharos (lighthouse) At Alexandria


Mausoleum At Halicarnassus

Originally designed as a 'filler' to accompany Spirit Of The Pharaohs onto video release, Seven Wonders Of The World has begun to take on a life of its own.

Taking its cue from the seven wonders of the ancient world, it offers a bird's eye view of what these sites might have been like in their heyday – however, apart from the Pyramids of Giza there is no physical evidence remaining of the other six wonders, so how they look here is more an artistic interpretation than the truth.

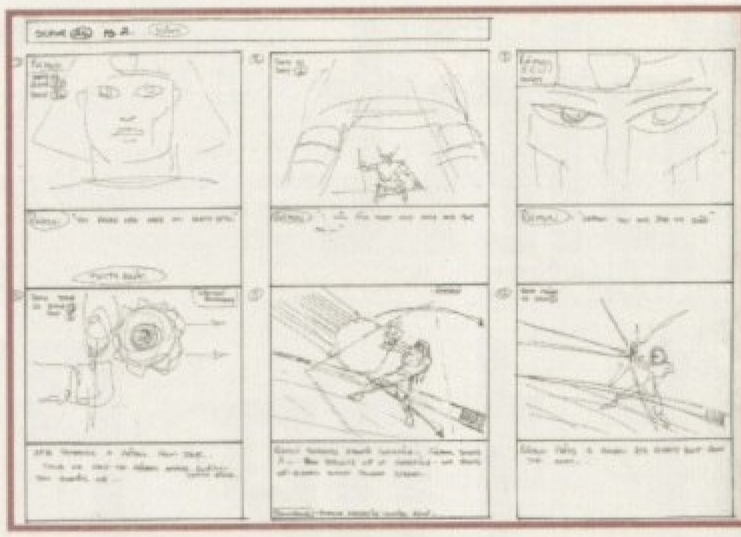
Unlike Spirit Of The Pharaohs, Seven Wonders is almost entirely 3D modelled (using either Real 3D or Lightwave 3D), and includes work by other animators. Andy Jones, UK tech support guru for Activa UK, provided the Pharos at Alexandria sequence, while Yuri Large (also of Alternative Image) provided the Pyramids scenes. Seven Wonders will accompany Spirit Of The Pharaohs as a video release.

Animator profiles

Henri Bujko
Born in Sheffield. MA in Information Design (1982). Has worked freelance as a corporate, animation and graphics producer and taught graphics at a variety of colleges and educational establishments. Co-founder of Alternative Image in 1987, where he first encountered the Amiga as a titling machine. Now a full-time animator and graphics producer for Alternative Image. Self-taught 3D animator.

Tips For Success: Keep at it. Practice constantly and keep having new ideas – software and hardware alone does not make an animator. Don't expect to be an instant hit, it could take you years to make a decent living from animation unless you are exceptionally gifted. Don't get discouraged.

Martyn Bibby
Spent five years servicing electronics equipment before taking an OND in photography (1988). Then started a degree in film, photography and animation (1991), before being forced to drop out as a result of the government's changes in student funding. Did the usual range of day jobs to stay alive and continued his interest in computers, buying an Amiga 500 and Imagine to learn 3D animation. His work attracted interest from companies like Psygnosis, but no job offers! After being freelance for a while he now works at AI as an animator, since *they* were interested enough to employ him!


Storyboards are used to outline the various scenes and actions in a production. Here is one storyboard and several frames which have been rendered from it

he knew anyone who could do the images and animation. Mike recommended Alternative Image and, after some initial contacts and meetings, Terry Jervis duly contracted the animation duties to them. AI then found a graphic artist to produce the original artwork and the project began in earnest in July 1994, only to quickly grind to a temporary halt when the artist apparently bottled out. Another local artist, Ian Peterson, was drafted in and it is now Ian's job to produce the storyboards (based on Terry's original script) and all the foreground artwork.


Pyramids Of Egypt

The non-Amiga backgrounds are drawn by Dave Oxford, and both artists maintain a close working relationship, as well as regularly discussing upcoming designs with AI and Terry Jervis for approval. All the artwork for Spirit Of The Pharaohs has a modern comic-book style, with bold, upfront and colourful graphics which transfer well to computer-style animation and complement the action and adventure in the storyline. All the original artwork is drawn on A4 paper in a mixture of paint and ink, rather like traditional cel animation, though without all the in-between positions.

One of the biggest challenges of the Spirit Of the Pharaohs project is that initially it will be 30-minutes long (there is also the possibility of a further 30 minutes, subject to approval), though this will be split into three ten-minute segments for TV transmission. This meant that around 45000 separate frames needed to be produced, though not all these will be hand drawn, since this is where the Amigas come into their own.

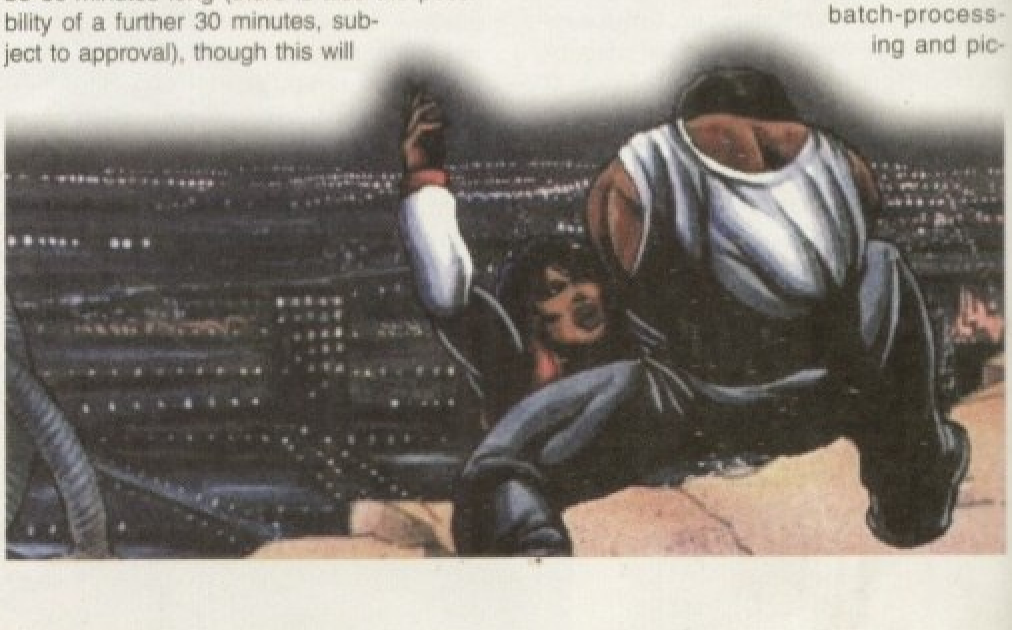
Once a set of artwork has been produced to match the storyboard action, it is scanned in at high-resolution with an Epson GT-800 scanner driven by Art Department Professional software and saved to hard drive. Depending on the story action required, it may be just a simple matter of compositing foreground and background together for a particular scene or, more likely, a more complex 3D treatment may be needed.

OPERATIONS

This is where some of the secrecy forbids me from letting too much out of the bag, but I can tell you that ImageFX is usually the first stage in an operation that ultimately leads to using either Lightwave or Real3D to animate the 2D foreground elements against a background image, along with any required lighting effects and movements.

There isn't a standard procedure that can be applied to every scene since each often requires different effects and movement, but the use of clip mapping and lighting effects definitely help to make the animations work.

Once the scene has been constructed in the 3D program and some test images rendered, a full render has to be made of the whole sequence. Henri and Martyn usually work on setting up scenes during the day and leave their Amigas to get on with the batch-processing and pic-







ture crunching during the night. Once rendered, all the images are transferred to the PAR (if they haven't been rendered directly to it) and the sequences checked for speed and content. Normally a sequence will turn out as planned but there are times when unforeseen problems arise – a movement may not work successfully, or a rendering artefact may appear, perhaps as a result of a bug in the software. Colours or lighting might not be quite as anticipated, so minor changes have to be made and the section re-rendered to the satisfaction of all concerned.



Although the artists and animators are generally left to police their own work and provide in-house quality control, the final nod still belongs to Terry, the project's creator and producer.

While the animations are being produced, Mike Adams and Dale Robins, his partner, are working on the dialogue, music and sound effects at their studio. When a worthwhile chunk of animation has been prepared, Mike and Dale come to AI's edit suite and rough-cut the audio they've prepared to the animation sections which have been laid off from the PAR to Hi-Band U-matic SP tape.

TWEAKING

If no major problems arise then the duo take the rough edits back to their studio where they too have an SP system, and here they tweak the soundtrack to their satisfaction to produce a fully-mixed and edited version of all the dialogue and M&Es (Music and Effects).

Once all the separate parts of the programme are finalised and ready for the online edit, all the images and animation sequences are transferred from the PAR to Betacam, the completed soundtrack mastered onto the video tape and that's it. Sounds simple doesn't it? Henri reckons that it could take anything from two to ten hours to draw, input and render a single 25-frame scene (that's one second of animation). Time is tight as they struggle to get all the frames out on schedule.

So the working process goes on, building up a graphics sequence, rendering the frames and editing the programme together, a scene at a time. I know from experience that this can be a grinding, boring experience which at times seems to have no end and takes over most of your life. You spend your days working in dimly-lit rooms with little access to daylight, especially during the winter months, and the whole thing can get quite depressing if you let it.

But there are plenty of bonus points too. Probably the most satisfying aspect is to be working on a project you think worthwhile, and both Henri and Martyn made it clear to me that while they consider both projects are taking their toll on their daily lives, they are actually enjoying the experience as well, being continually at the birth of each new scene and being allowed a lot of creative leeway to decide what occurs in the animated scenes and how to achieve the necessary action and effects.

Sometimes a simple solution will prove to be a better one than simply throwing computing and software power at a problem. One definite advantage of having several people working on a project (and all except Terry are based in or around Leicester) is that if the going gets tough or ideas are thin on the ground, a bit of brainstorming will often get them back on track.

A problem which appears insoluble to one of the crew can often be solved by someone who isn't as directly involved with a particular process, and who is able to view it from a distance and *can* see the wood for the trees.

Alternative Image's problem now is to get the product out on time, and if the deadline is to be met I'd better let them all get back to work. Clutching several disks full of images, and wishing Henri and Martyn good luck, I left Leicester full of wonder about what the Amiga can do, even in what could be its twilight days. I've only seen fragments of Spirit Of The Pharaohs, but it looks like a winner to me.

AC

The AI Amiga setup

Alternative Image has a range of Amigas which are used for graphics and animation rendering. The main machines are an A2000 equipped with a PP&S 28MHz '040 with 32Mb RAM, 0.5Gb hard drive and DPS PAR (with grab option and its own dedicated hard drive) and an A2000 with a Fusion 40 accelerator, 32Mb RAM and another 0.5Gb hard drive.

Supplementary machines include two more A2000s, each with a GVP 33MHz '040 card and 16Mb RAM, plus an A3000 with a GVP '040 accelerator and 20Mb RAM. There is also a DAT D2 drive for archiving rendered sequences, a CD-ROM drive for loading CD-based textures and animation image sequences for image mapping, and an Epson GT-800 scanner for capturing artwork and photographic images.

The software includes Real3D2, Lightwave 3D standalone, ImageFX, Art Department Professional, Sparks, Essence, Imagine 3, Deluxe Paint and Brilliance.

Although this might seem a pretty extensive list, Henri would like to be able to expand the system a bit more to include another PAR (and hard drive) so that high-quality editing can be done at the origination stage, therefore keeping picture quality as high as possible.

Adding a Sunrise card to this setup will enable sound and pictures to be married together for offline work, though the final soundtrack would still be laid down after the PAR-based material has been transferred to component Betacam or other broadcast quality medium.

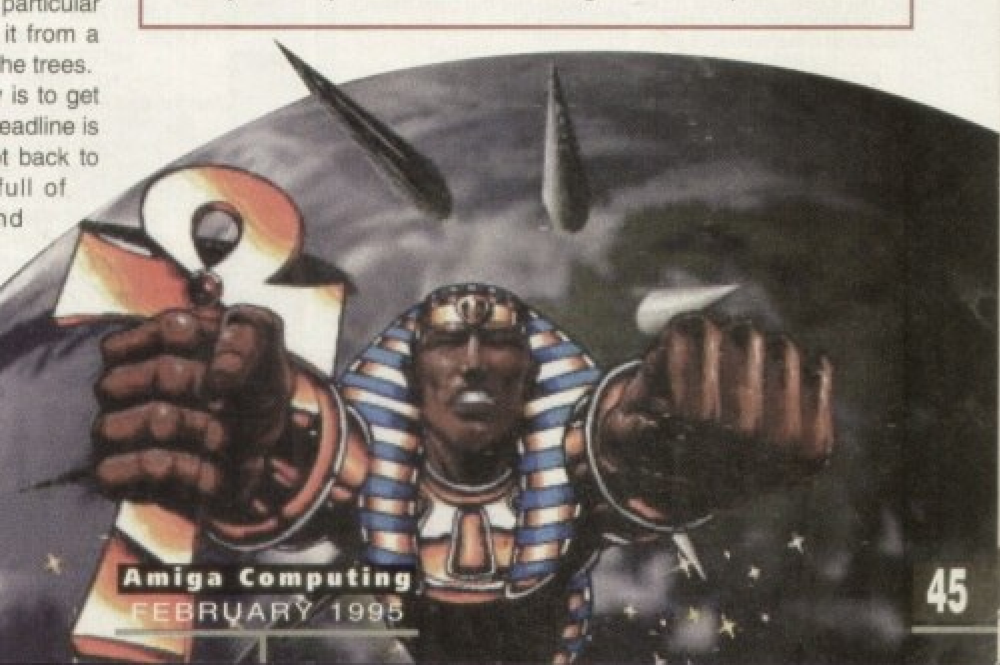
Henri also plans to network all the Amigas (and any other machines they may acquire in the future) to increase the capabilities of the computing base and to speed the transfer of data from rendering machines to the PAR hosts.

If, or when, the Amiga is finally no more, AI plans to keep working the Amigas for as long as possible, probably fitting 68060 processors to them to keep them performing to their limits. The team will probably try to buy some more A2000s as well, since they believe them to be the most versatile, stable and easiest-to-expand Amiga that Commodore ever produced, more so than the A3000 and particularly the underpowered, overpriced and flawed A4000.

But if the worst comes to the worst, it looks like AI will buy into new, non-Amiga machines, probably DEC Alphas, as such machines offer more power for the pound than the Amiga and because the basis of all the work, the Real 3D and Lightwave software, will run on the Alpha (Real 3D already does, and Lightwave is said to be in the process of being ported). So even if the Amiga doesn't make it, Henri and Martyn won't have to learn a new set of hoops – and they'll have much more processing power available to boot.

Contact point

Gary Whiteley can be e-mailed as drgaz@cix.compulink.co.uk.



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VISA

Mean, lean machine

Following the arrival of Wordworth 3.1 last month, Digita has released a stripped-down, cheaper companion. Gareth Lofthouse tests how well the SE version shapes up

Reviewed in last month's issue, Wordworth 3.1 received the coveted Blue Chip award and established itself as the Amiga's most powerful WP package.

As we warned you then, however, the demands made by the program will exclude a fair number of potential users. WW 3.1 requires a whopping 3Mb of memory plus either a hard drive or *two* floppy drives.

In the light of these problems, the release of this version can only be seen as a wise move on Digita's behalf. SE stands for Special Edition, a package that retains the look and essential functions of 3.1 while omitting some of its more advanced features.

This two-lane approach actually makes a lot of sense, even for users with Amigas powerful enough to run the full version. Users can now assess their needs and decide whether they have to spend the full whack just to make sure they get the most advanced WP on the market.

Digita has found that most people don't actually use some of the more specialised functions. WW 3.1 is important because it gives the serious user power to match PC word processing, but the fact is that the cut down SE will be perfectly adequate for most people, despite a greatly reduced price tag.

SE is designed to run on the most basic 1200, with its normal 2MB memory and its single internal floppy drive. In comparison to the five floppy disks that WW 3.1 consumes, this leaner version requires only three.

On booting the program up it's surprisingly difficult at first to spot any differences with its older and more expensive brother. The interface appears to be identical, even down to the well-drawn tool bar.

Since SE omits some advanced features, I was expecting the removal of the drawing tools in favour of a down-to-earth text handler. To my surprise, however, WW 3.1's object creation tools are completely intact.

Similarly, the benefits of the dictionary and the auto-correct facility are still available, as is the convenience of drag and drop editing. There's no doubt that SE remains a powerful little word processor, yet it runs quickly, even on the normal 1200.

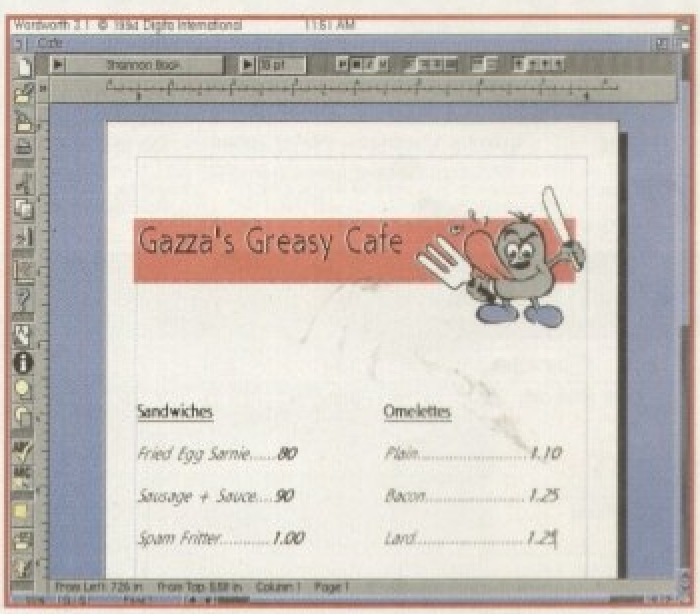
So what is missing, you may ask? The most serious omission in my view is the vast choice of fonts offered by WW 3.1. This version can only use compugraphic fonts, drastically reducing the options.

Other handy facilities that have gone are the Table Generator and the Print Manager. In both these areas the ordinary 3.1 excels, so the serious user may feel their absense is too great a handicap.

Less important for most people is the lack of a Table of Contents creator, Bookmarks, the Index Creator and the Librarian facility. All these things are good extras, but only a minority of users need them.



An example of the professional touch Wordworth SE can give to your documents



Colour, frames and whirling text effects make dull letters lively

Designing your pages

Something often forgotten when it comes to DTP is the importance of having a monitor which takes advantage of your package's capabilities. The fact is, unless you have a monitor which will support Hi-res No Flicker you won't be benefiting fully from Wordworth's WYSIWYG system.

In normal Hi-res, for example, when you create a circle it will be produced on screen as an oval shape. This means that the user will find it more difficult to design the page layout because the printed document will not look the same as it does on your monitor.

Unfortunately, medium resolution monitors will not support Hi-res No Flicker. To make the best of DTP functions, you'll need either an SVGA monitor or a Multiscan, the latter allowing you to play games as well.

For the user who wants to go for real professionalism, it may be worth investing in a graphics card like Picasso or Spectrum, which will allow for more colours and a better look in general.

End result

SE is a product that exudes an air of good sense. Far from being the poor man's alternative to its more powerful brother, it retains many impressive features that may make many buyers wonder if it's worth spending more.

The message is: don't be tempted to buy the most expensive product just because it's the flashiest contender on the market. Remember, few people will need more features than this slimmer version of WW 3.1 already offers.

Giving access to Wordworth for ordinary Amiga users and banishing fears that Digita was pricing itself out of the market, this product is highly recommended for everyone's consideration. SE sets a new standard in value-for-money for the New Year.

SYSTEM ESSENTIALS

RED = Essential BLACK = Recommended

2 Mb RAM | 2.4+ Workbench

The bottom line

Product: Wordworth 3.1 SE
Price: £49.99
Supplier: Digita International
Tel: 01395 270273

Ease of use	9
Implementation	9
Value for money	9
Overall	9

Seeing the signs

10/10 tot up another success, but this time it's adults who are set to profit from their wisdom

I remember the Highway Code. I mean, I don't remember many of the rules, but I do remember spending the night before my driving test staving off waves of boredom as I attempted to cram the drab little book.

Of course, such efforts are usually in vain. With cow-like reflexes for my emergency stop and enough collisions with the kerb when reversing to erode the entire pavement, it was hardly surprising that my mind was a blank when it came to the Highway Code.

It's not easy to sit down and apply yourself to learning this type of thing. The code isn't difficult, but it reeks of officialdom in a way that instantly brings a bleary glaze over the eyes of even the most committed student.

Praise and admiration is due, therefore, to 10/10 for attempting to introduce a bit of fun and interest into the process. It has tackled Statistics before, so if anyone can do it, this company can.

The basic style and look of this package is the same as any other release in the series. There are the six different games designed to present the player with over 2000 categorised and graded questions.

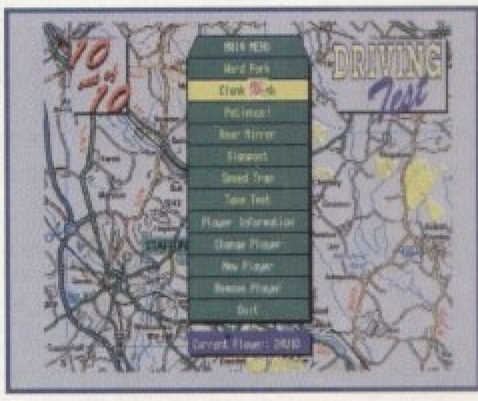
Visually, it's of a typically simple and colourful order, but the teddybears and martians of the children's software have been replaced with graphics more appropriate for adults.

The 10/10 achievement record remains in tact except for the fact that the junior school star award system has been removed. The record has always been an effective part of the series, with player progress being updated automatically.

When it comes to the games themselves, 10/10 has again tried to make them more suitable for an older audience than they usually aim at. Unfortunately there's nothing original – these are the old chestnuts bent to educational means.

The game Patience will give you an idea of the package. This is the classic solitaire card game, but to turn over cards you need to answer a question relating to the highway code.

Then there's Clunk Click, a familiar memory game but one which is an effective learning aid when it comes to remembering what signs mean. The sextet is completed by Word Park – an anagram game – Speed Trap – which is most fun – Rear Window and Sign Post. During all of them, players are asked to recognise signs and answer written questions by selecting from a choice of answers with the mouse. Some of the higher levels require a modicum of logic as well as factual recollection, which makes for a more interesting exercise.



The map backdrop lends a more mature feel to what is basically the same interface



Hardly an original game concept, but at least it works

Each has a number of levels and on harder sections the detail of knowledge required is high, so players shouldn't be put off if they start finding things tricky. The same problems keep cropping up, so eventually you'll start to get the right answers

HIGH FLYERS

In fact, test applicants need only pass level four. Level five is reserved for experienced motorists and level six tests specialised and advanced knowledge, so anyone keen enough can progress on to know-it-all status.

The aim for most users, however, is to pass the driving test, and anyone suffering from the jitters will benefit from the dry run provided by the mock test in the package.

To qualify for the test, players must score 70 per cent on each of the games up to level four. Having done this, you must then pass the eyesight test, a detail that helps to prepare you for the feel of the real thing.

Everything you might expect on the day appears to be covered, including reversing into a limited opening, anticipating other people's actions, and awareness of road and traffic conditions. To pass, the player must score over 75 per cent, but once they succeed this can only be a great confidence booster.

Did it pass?

We know from past experience that 10/10's system works; they've been showing the way for rivals in the educational field for a long time. It's good to see, however, that the formula can work well for adults as well.

True, the games aren't riveting in themselves, but they're undoubtedly more interesting than parrot learning the booklet. They establish patterns in your mind that makes remembering a lot easier.

Some parts of the system did seem a bit redundant. The separate parent/teacher guide might be a little annoying from a 17-year old's point of view. Nor is such a student likely to be impressed by the print-out award chart.

Even so, I would have been very glad of this software when I was facing the daunting day. This is a unique aid, and one which leaves me hoping that 10/10 will focus on the older market again in the near future.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

1 Mb RAM

The bottom line

Product: 10 /10 Driving Test
Supplier: Snowden Sales and Marketing
Tel: 0625 539494
Price: £25.95

Ease of use	9
Implementation	8
Value for money	8
Overall	8

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All my own work

star letter

I have thought of an idea for a computer game which I think would sell very well. The trouble is I can't program and I'm not sure how to get companies interested.

Would they take my idea seriously or do I need to produce a working demo version first? Even if a company does like my idea, how can I be sure that it won't just market it itself as if it was all its own work? Any advice which you can give on this matter would be greatly appreciated – please help!

David O'Conner, Dinnington

Surprisingly enough this is a fairly common situation. Quite often the best game ideas come from none programmers. The trick is to ensure you get a slice of the receipts.

First of all, a demo is by no means essential. What you need to do is simply convey the concept of the game – it's the publisher's job to implement your initial idea.

The best way to achieve that from a none programming stand-point is to produce a pictorial storyboard of the game which you can then take to a number of software developers for evaluation.

Obviously, presentation is important, so the first thing to do is enlist the skills of a reasonably talented artist – assuming you can't do the job under your own steam.

Once your masterpiece is complete, make a copy and mail it to yourself, or better still to your solicitor, using registered post. On arrival put the untouched envelope in a safe place. Under no circumstances should it be opened!

Basically, this is a simple way of registering copyright for its contents. If for some reason the issue of ownership comes in to question, at least you'll have some proof.

If you do have a solicitor it might be well worth a quick call to verify the legal position. However, this technique is almost a tradition in the music business and has proved successful on numerous occasions. If it works for demo tapes it should do the same for games.

Finally, it might not be wise to mention your attempt to secure copyright to potential publishers. It would be all too easy for the company to make a few alterations and claim the concept was all its own work.

Nightmare of my own

I was reading with interest your letter 'service without a smile' in your Christmas issue when I decided that I should write and tell you my recent experiences with a few well known companies that advertise in your magazine every month.

I have been an Amiga user since its launch in the UK (the A1000) and have dealt with a number of companies during my time. Recently, I decided to upgrade my A1200 for development purposes and so that I could use the excellent Lightwave software package. After reading through the advertisements in your magazine (and a couple of others), I decided to place my order with Indi Direct for a 50MHz 68030 processor upgrade with a 50MHz FPU and 4Mb of RAM and a 270Mb internal hard drive as they seemed a reputable company – also, rather than having to shell out all at once, I could take the opportunity of its 'buy now pay in six months' option.

I sent my order form and was telephoned by Indi the next day to check exactly what it was that I was ordering (good customer service I thought).

I waited the customary 28 days (although I thought they might have been quicker being such a large company) but nothing arrived. I duly called Indi to make sure that it had received my proposal form and everything was fine.

I was greeted by a young gentleman who (after supposedly checking) informed me that everything was fine with my proposal but that they were just awaiting a new stock of hard drives to arrive.

As I had been told that everything was fine with my order, I went and purchased Lightwave so that as soon as my hardware arrived I could instantly load it up and start using it.

A further four weeks passed and nothing arrived. Once again I called Indi to see what was happening and once again was told (after checking who I was and what my order was) that everything was fine with my application and that they were still awaiting delivery of hard drives.

The young gentlemen assured me that the hard drives were due in that weekend and that he would personally make sure that the drive was installed and sent to me on Saturday so that I should receive it no later that Tuesday of that week.

A further two weeks passed and nothing arrived. By this point I was getting a bit miffed, as you might imagine. I called Indi up again, this time to be informed that they had apparently never received my application – despite being called by them to say that they had to check my order and also despite me calling them and being informed on more than one occasion that everything was fine with my order. I have also recently dealt with 17 bit software and Epic public domain libraries. These people aren't in the

➤

Out of time, out of HELM

I have been impressed with the quality of your recent cover-disks, and hope that you will continue to provide such useful programmes as HELM, given away in the July addition.

I found it one of the most comprehensive multimedia packages that I have come across, and spent a considerable amount of time trying to get to grips with it before the August trial deadline ran out. However, what I have been waiting for is your further in-depth look at HELM, which sadly you appear to have forgotten about. This is a pity, as such a great program deserved a more detailed review. The trial version impressed me so much that I decided to purchase the complete program, but sadly I can't find a supplier. Having contacted Emerald Creative, I was informed that HELM had been discontinued. Can you please advise if HELM is still available, and if you intend to do a tutorial on this package.

B.A. Mills, Taporley

Firstly, I was not aware that the program had been discontinued. If this is the case I don't feel that we could justify further editorial to the package. During our promotion there was no mention that the production would be terminated. In fact, improving sales for the complete package was exactly why we ran a time-bombed version of the software in the first place.

I'm afraid the only help I can offer is to invite any retailers who may have stocks to get in touch and we'll print the appropriate names and numbers in the next issue.

In addition, if there are any Helm user groups out there please drop me a line and we'll add them to the list.

game for money like Indi, and are really just giving themselves enough money to live off while providing a service, and I have received my orders from them within a week (usually three-four days), despite paying by cheque.

I have since reapplied to Indi and after a further five weeks have been told that my application has been refused. I am currently sitting with a copy of Lightwave which cost me over £450 and was only bought on the reassurance from one of Indi's staff that my application was fine.

I am still awaiting official notification from Indi Direct that my application has been refused after what is now over 18 weeks!

I would therefore like to warn your fellow readers about Indi Direct, but at the same time heartily recommend both 17 bit software and Epic.

P.S. I have been a reader since issue one and with the excellent tutorials and cover disks, I shall continue to be for the foreseeable future. Keep up the good work.

Collin Brown, Perth

At the risk of becoming even more boring than my contract requires, Indi is yet another company who've generated little, if any complaints during my time with the magazine.

The cynics among you may well think I'm leaping to the defence of the major players simply in order to preserve the ad revenue they generate. However, if that was the case the simplest solution would be to just throw any advertiser bashing mail straight in the bin. Our stand concerning WTS already proves *Amiga Computing's* impartiality when it comes to advertisers.

My only comment in regard to your dealings with Indi is that either it made a rare but nevertheless monumental cock-up or alternatively, simply considered your credit rating unsuitable for its long-term payment scheme.

The only crumb of comfort is the fact that you've only sacrificed time rather than hard cash during your dealings with the company.

As for your comments concerning 17 Bit and Epic, it goes to prove that although certain advertisers may offer less than ideal service, the vast majority are still doing a good job of keeping the Amiga on its feet.

P.S. Thanks for the P.S...

Got something to say through the pages of AC? Ezra Surf is our mailman, dedicated to reading your letters and selecting the most interesting for publication. Drop him a line at:

Ezra Surf's Postbag , Amiga Computing Adlington Park, Macclesfield SK10 4NP

Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you end up getting the chop.

At the end of my tether

Having read the article in *Amiga Computing* December 1994, issue 80, page 58, from the middle to the bottom, regarding WTS Electronics Ltd, I wish to confess that I also was fooled about its honesty, and find it hard to do battle with them as I live in France.

Would you be kind enough to send me the address where I can lodge a complaint with the Trading Standards as mentioned in your magazine, or the Chamber of Commerce or Better Business Bureau.

Edith D. Bosson, France

Okay, this is absolutely the last piece of editorial I'll be running in reference to WTS. In order to get the best legal representation it's always wise to contact the trading standards office which is local to the company in question.

In the case of WTS, the office in question can be contacted by phone on: 0582 409358, but if you prefer to write in the address is as follows: Bedfordshire County Council, Trading Standards Service, 111 Stewart Street, Luton LU1 5NP

In total disagreement

I am writing to point out that in your reply to D. Goodall (star letter in Christmas *Amiga Computing*) you only agreed with his disappointment with the AGA chipset and problems with his set-up.

I have an Amiga 4000/030 and have never suffered from the problems that he complains of. Also, he is incorrect in saying that Commodore could not fix the bugs as it released a PD disk entitled 1940/1942 Set-up which was designed to cure bugs encountered when using Commodore's own monitors.

The version I have contains new monitor drivers version 40.4 (there is no new driver for Super72) and updates for the following files (old version in brackets):

IPrefs v40.7 (29.11)
Setpatch v40.5 (29.6)
Overscan Prefs v40.2 (39.2)

Obtained from KEW=II public domain library (081-657-1617). As to Mr. Goodall's problem with the Super72 800 X 600 screen resolution, the answer to this problem has been printed in the November issue of JAM (01895 274449), and involves setting the tool types in the Super72 icon file.

The quality of the display depends on the monitor used. I have not enclosed the settings stated in JAM as it is possible to damage a monitor if you use the wrong values.

On my Microvitech 1440 monitor, the Super72 monitor driver gives an 820 X 600 screen which is quite stable, having a slight flicker like DblPAL 640 X 512, but with careful selection of the palette a flicker free display can be obtained. I hope this information is of use to you.

Keith Hankin, West Midlands

Point taken. However, did Commodore issue the aforementioned patch as a freebie to all AGA owners – me thinks not!

On top of that, is it really an ideal situation that Commodore should have to release fixes for Commodore monitors to work with Commodore computers. Personally, I don't think so.

As for running editorial which could potentially damage equipment, this is something we've always shied away from. A user simply shouldn't be put in a financial, or perhaps even a physical risk simply to make a machine do what the manufacturer promised.

Power to complain

Going way back to the beginning of August of this year, I ordered a floating point unit and 200 watt power supply from Power Computing who regularly advertises in your magazine.

To begin with, the power unit sent was only a 50 watt supply and I returned the item. A couple of months later a refund was finally sent to me.

The floating point unit would not work on my machine and after speaking with one of its technical staff I was given a returns number.

Can I get a refund from the company? No! Despite numerous phone calls, letters etc., all I can get is the plaintive cry of "We do not issue refunds on FPUs." I am absolutely sick to the back teeth of this pathetic cry.

Not only has a refund not been given, but Power Computing has also retained the FPU itself, the initial reason being that the item would have to be checked for damage etc., which I well understand. However, as we are approaching the 'some months later period' there is still no sign of an amicable settlement.

As I have pointed out to Power Computing, 'The FPU does not work on my machine.' It seems difficult for the company to comprehend that statement. Is this why it is being so dogmatic, thus causing so much frustration and aggravation?

Power Computing carries a large advertisement in your magazine – therefore I do not think that the solvency of the company is totally dependent on the refunded cost of an FPU. At no time was it advertised that items found unsuitable would not be refunded and I fail to see why this procedure cannot be carried out! What do you think?

C.R. Oldham, Manchester

First of all, I'd like to make it clear that Power Computing should in no way be considered as another WTS in the making. Over the years the company has provided exceptional service to the Amiga community.

Due to your complaint being one of the few that *AC* has received in relation to Power, I think you'll understand why your query is being handled with a certain amount of diplomacy.

In my experience, Power has always employed a very fair returns policy. As a result my advice would be to go direct to the managing director Mr Tony Ianiri. If your case is valid I'm sure the problem will be resolved amicably.

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AMIGA COMPUTING ADVICE SERVICE

Time for another bout of problem bashing courtesy of the extremely helpful ACAS pages

Sorting out scan rates

I have recently encountered a problem which I am sure is shared by many other Amiga owners. I have a Picasso II retargetable graphics card installed in my Amiga and am now looking for a suitable monitor.

The Picasso's screen modes range between 36kHz and 63kHz and my Idek MF-5315, which scans between 30 and 68kHz, seems to be suitable. The problem is that many Amiga program screens insist on using the 15kHz PAL and NTSC screen modes and cannot be altered, even using Picasso's Change screen software. An extreme example is ADPro's main control screen.

It would therefore seem that I require a monitor which can scan between 15 and 63kHz, which is asking quite a lot considering monitors which can scan down to 15kHz usually can't scan above 40kHz.

I could of course split the Amiga's RGB signal between my Idek and my existing TV but I don't want to run the risk of sending the wrong signal to one of them.

Would it be worth purchasing a scan-doubler to change all 15kHz modes to 30kHz? If so, can you please recommend one and explain the basic workings?

Brett Buckley, Huddersfield

The Picasso II has its own built-in scan-doubler (usually referred to as a de-interlacer or flicker fixer) which is software controlled from Workbench. Therefore, any 15kHz screens opened from Workbench should be retargetted by Picasso.

Other software, such as games, which take over the entire Amiga system for execution, are always going to be a problem because they usually access the screen directly in a way which Picasso won't be able to handle.

However, monitor technology is constantly advancing, so give Idek a call to check its latest range of monitors to see if it can solve your dilemma. It will probably be an expensive solution though, so you may well have to put up with a two-monitor setup.

IDE v SCSI

As is probably the case with many A1200 owners, I am now at the point of needing a larger disk drive than the 85Mb fitted as standard in my machine.

I'm not totally computer illiterate but I must confess to not really knowing the basic differences between IDE drives and SCSI drives.

I'm given the general impression that SCSI drives are more expensive, but I'm wondering why this is so. Also, what difference in performance, if any, is there between the two?

I would like a drive with a capacity of about 210Mb, which I hope will solve my space problems for some time to come.

It's amazing how 85Mb seems a gorgeous amount of space to have initially and then suddenly, five month's later, you find that you are running out of space isn't it?

L. Edwards, Mid Glamorgan

Okay, here goes with a quick explanation of the differences between the two. First of all, and most important in my mind, is that SCSI drives are generally faster than IDEs, both in access times and particularly transfer rates.

Access times are the amount of time the drive takes to position the heads at a particular sector or track. Transfer rates are how much data (usually measured in Mbytes per second) the drive can process.

This is because the drives SCSI interface handles the majority of the work when transferring data and issuing commands to the actual drive motor and heads. IDE drives leave some of the work for your computer's CPU to handle, thereby slowing things down. This is why SCSI drives are more expensive than IDEs.

SCSI drives are much more versatile too in that you can simply connect other drives in a chain (usually called daisy-chaining) to one another with a simple cable. Each drive requires a unique ID number, which can usually be set using jumpers on the drive or by an ID switch on fully-cased models.

A maximum of seven SCSI devices can thus be connected together. Notice I said SCSI devices – a SCSI device can be a plotter, CD-ROM, magneto-optical drive, tape streamer or scanner, not just a hard drive. As long as it has a SCSI interface and a unique ID number, it doesn't really matter what it is.

A bonus point for IDE drives is that they are easy to install into your computer as the A1200 has a built-in IDE interface. Adding a SCSI device will require that you buy a SCSI interface for your Amiga to talk to the drives SCSI interfaces, which puts the price up again.

So, if you want ease of installation and low cost, IDE drives are your solution. If however, you need high-speed performance and flexibility, there's nothing that can touch SCSI at the moment.

PCMCIA or no

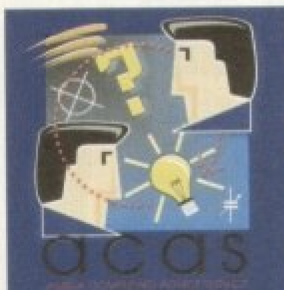
I have recently been given an 8Mb RAM PCMCIA card for my A1200 from a friend and I have a couple of questions. How large a memory capacity can you get on one of these cards and how come they haven't taken over from the clumsy trapdoor alternative as a more convenient memory upgrade?

I. Bell, Southampton

They may be convenient to install, but they are a lot slower than trapdoor RAM expansion memory. PCMCIA Ram cards work on 16-bit technology, whereas trapdoor RAM expansion cards are 32-bit.

They are therefore half as fast and you will notice the difference in speed for applications which shove lots of data around in memory, which is pretty much all software really.

As for memory capacity, I've seen 16Mb cards for sale and no doubt there are higher capacities available, but again, bear in mind that there will be a significant performance decrease compared to 32-bit trapdoor upgrades.



Do you have a problem? Do you sometimes find yourself poised over your Amiga with axe in hand, spouting profanity at the stubborn refusal of your Amiga software or hardware to behave properly?

Well, calm down and swap the axe for pen and paper, jot down your problems, along with a thorough description of your Amiga setup, and send it off to Amiga Computing Advice Service, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP.

Any questions?

Tool types

I have had my A500 Plus for about a year now and am quite pleased with it. I am gradually getting to grips with the powerful Amiga operating system thanks to the numerous tutorials printed in your magazine every so often.

However, there is one particular curiosity which I am not sure about. Exactly what are tool types? I have noticed that many of my program icons have tool types for directories with one called CX_Popup, which is either yes or no. Please can you explain?

W. Hargreaves, Sussex

Tool types are really the same as the parameters you might type for a CLI command. They allow you to do such things as change the way a program operates or even looks, as well as providing general information.

Tool types which define a particular directory are probably telling the program where it can find various data files in order to function.

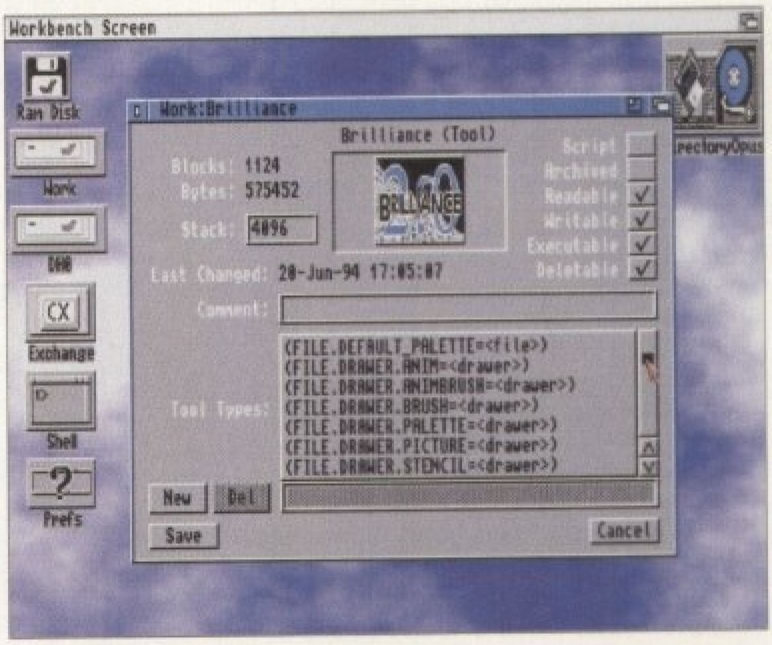
As for the CX_Popup tool, this simply tells the Amiga whether a program's interface should appear when it's loaded.

Only commodities which are designed to run at boot-up in the background generally use CX_Popup, but authors are free to use their own.

If you want to change any program's tool types, just check the program manual, which should tell you what they actually do. My first experience with tool types was when a program I had always loaded in interlace screen mode.

I couldn't find a function in the program's menus which would allow me to change this, but a quick look at the manual informed me that a tool type could be changed to achieve this.

Tool types are an easy and flexible method of passing parameters to a program



Modem link-up

My friend has a PC and I have an A1200 and we are both very interested in graphics and 3D rendering. We regularly chat and send each other picture files and other related files.

Recently, my friend has bought a modem for his machine. He says it's the best buy he's made and tells me about all the conferences and forums on graphics available on CIX and Compuserve.

Needless to say, I'm now looking at getting a modem to access all this information on graphics. My question however, is that once I have a modem, will it be possible to transfer my Amiga files to my friends PC, or is there a difference between PC modems and Amiga modems?

S. Clark, Warrington

If the files you wish to send are merely graphics or text files, you should have no problems whatsoever, as long as you save your text files as ASCII and your picture files in a format which can be read by your friends PC software.

With the numerous picture file formats which the PC and Amiga can produce, there should be relatively no problems here. The three most commonly and widely compatible picture formats are Targa, TIFF and GIF files, all common to most PC and Amiga graphics software.

The world of modems and communications is pretty much generic so there are no real differences between the Amiga comms and PC comms which will cause you problems. As far as modems are concerned, it doesn't matter what type of computer is at either end of a connection.

Expander error explained

I think I've sussed D. Gooden's problem with DiskExpander (Amiga Computing issue 81). From the description, it sounds as if the system partition (DH0) has been packed instead of excluding those all-important forbidden files.

I'm assuming that the program is installed for the device that requires packing, as implied in Mr Gooden's letter.

If we now examine the Device Packer program, from the menu, some options are available. 'Forbidden Files' means that certain files will not be packed during the compression process.

The default for this option is off, meaning the files will not be processed. Changing this so that it is ticked will force the program to process all files on the drive, including the forbidden ones.

Forbidden files include the startup sequence, system configuration, essential libraries and DiskExpander itself. If these files are packed, the machine will not start up due to the unpack routine not being available because it too is packed.

All is not lost if this is the case as you can unpack the files using the original floppy. Simply use the Device Packer program, only this time process the device with unpack and then repack the device, making sure that forbidden files is not checked.

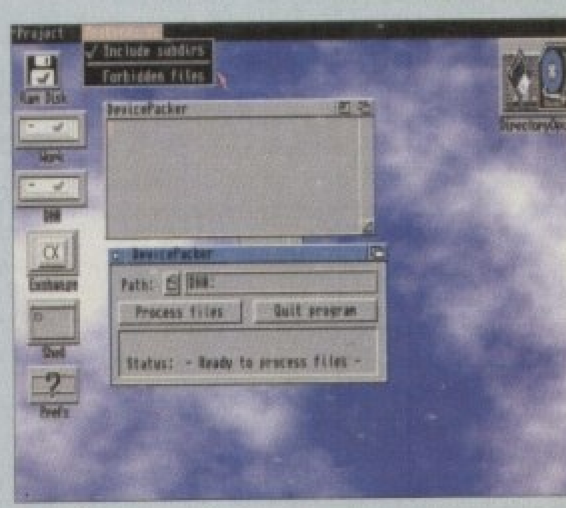
Now go to DiskExpander and switch Pack to off. This is only really necessary for your DH0 or System Partition to avoid any accidental packing if you later change any of the forbidden files for any reason.

Modify your startup sequence from DiskExpander using the default option which puts all the pack/unpack commands at the beginning of the startup sequence. The golden rule is: leave all of the 'process files' defaults as they are.

Follow the same procedure for DH1 or Work partition, remembering it needs a separate install and another modify startup. Leave the Pack option on with this partition so that all future writes to the hard disks are automatically compressed on the fly.

John Ward, Derby

Many thanks for your suggestion. I'm sure Mr Gooden will be eager to try out your theory and hopefully, it will be the solution to his problems. Remember, if you have any useful hints or tips to problems which you have encountered and overcome, write in and tell us about them. Not only will you get in print but you will get a warm feeling inside and will probably be guaranteed a place in heaven for being so helpful.



When compacting a system partition, be sure that forbidden files is not ticked

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Digital depths

CD-ROM collections offer oceans of useful bits and bobs, invariably at good value prices. Gareth Lofthouse assesses the latest releases

It appears that the serious side of CD-ROM is picking up pace. Since our ROM round-up only a few months ago, the wealth of utilities, games, images and sounds available on CD has continued to grow, giving professionals and enthusiasts alike plenty to choose from.

Collections including images, sound effects and fonts for titling are extremely useful for videographers, and the good news is that products of an increasingly professional standard are beginning to appear. Users of DTP packages and presentation software will also find interesting material on some of the latest releases.

As well as the more specifically themed CDs, we've included the latest PD and shareware titles including collections from the European and Canadian scene. Each of them contains thousands of programs and images covering just about every Amiga purpose possible.

A word of warning about the more general collections, however. PD is notoriously variable in quality and sorting the wheat from the chaff on each CD will take you some time. If you have the patience, you will be able to find some invaluable items at bargain basement prices.

Nexus Pro Reference Library

The Glasgow-based company, Videoworld, is taking an ambitious step into the CD-ROM market with a product that carries an unusually high price tag compared to the other discs reviewed. Clearly aiming for a professional standard throughout, the maker is hoping it will become the CD to use for DTV or DTP purposes.

Nearly all the background images that I viewed were of a very high quality. In the past, the photography on CD collections has sometimes been of an unimaginative standard. Fortunately the images on this CD often show a more artistic approach.

There's a good range of real life textures to choose from including tree bark, foil and pebbles. This may not sound exciting but they can be used to excellent effect with presentation packages like Scala – for example, information bullets will have more impact when they're set against an eye-catching background.

The images have been arranged into categories so that searching for a particular photograph is that bit easier. Even better is the inclusion of a picture catalogue which allows you to preview the pictures in a compressed form. Features like this are a Godsend if you haven't got days and days to search through a CD.

Makers of wedding videos are well catered for, with a section of their own. Some of the material here would make excellent interludes to highlight key events such as the signing of the register or the cutting of the cake.

For video makers in general, this CD is one of the best we've seen for giving more professional results. Many of the pictures are in video resolution which means they don't have to be scaled up – a process which can spoil the aspect ratio (shape) of the picture and tarnish its quality.

The 470 scalable fonts are bound to be useful for DTP users while the 16-bit audio samples are of a good sound quality; unfortunately, they're just the usual sort of sound bites like gun shots and chopper blades.

In short, Nexus Pro does cost considerably more than the average CD library. However, it's less than half the price of the floppy disk version and its material is consistently good enough to warrant more expense.

Image Formats
450 24-bit Jpeg
450 256-Colour IFF
300 256-Colour GIF
Fonts 470 AGFA
Compugraphic
Sound 16-bit IFF



The bottom line

Nexus Pro Reference Library
Price: £55
Supplier: Videoworld
Tel: 041-641 1142

Ease of use ---------------------8
Implementation --------------9
Value for money -------------8
Overall --------------------------8

Aminet Share 4



Aminet is a vast collection of freely distributable software, with countless programmers contributing all year round. Until recently, access to Aminet was restricted to international network users, but now the collection is being compiled on CD and updated on a quarterly basis.

Once again, it's a general interest compilation, covering games, utilities, networking software and programming languages. However, it deserves credit for its user friendly guide which makes finding particular items easier. So what's changed since Aminet 3 was reviewed in the last ROM Round-up? This time there's a special focus on music thanks to the inclusion of all the modules from the archive.

This is great news for anyone into Amiga audio. With 230Mb of songs giving 100 hours of playing time, this makes it a valuable product even if you just want to mess around with sounds for fun.

A considerable amount of new material has made its way onto the disk since the last version, so it remains one of the most up-to-date and worthwhile libraries available. Aminet deserves to remain a best seller.

The bottom line

Aminet Share 4
Price: £19.99 + 75p p+p
Supplier: 17th Bit Software
Tel: 01924 366982

Ease of use ---------------------8
Implementation --------------8
Value for money -------------9
Overall --------------------------8

Shareware Vol 1



When it comes to buying public domain and shareware programs, a CD collection is the best value option. Each library is vast, containing enough programs to cover literally hundreds of floppy disks, and the Prima Technologies collection is no exception.

It's a relief, therefore, to find a general interest CD that appears to have its material well organised into categories. You'll find graphic utilities in one drawer, music in another and so on – simple as that. This is a strong selling point since some of these collections can be like digital labyrinths.

There are a huge amount of fonts available, including Adobe, Intellifont and Gold disk formats, making this a very attractive product for DTP users. The range of images on offer is also good, thanks to some more original material.

The bits and bobs are more useful and up-to-date than usual. There are utilities allowing Amigas to be linked to Casio or Psion portables, for example, and a few emulators to get your machine imitating a PC or a Spectrum.

For the artists among you, there's a Ray Tracer and Hamlab Plus – the latter utility being useful for converting image formats. If you're not into the serious stuff, however, there's fun material like a cheat compendium, a sound effect program and a variety of hacks. These collections are always handy and cheap for what you get. However, this CD stands out as being better organised and more original in content than the average rival.

The bottom line

Shareware Vol 1
Price: £19.99
Supplier: Prima Technologies
Tel: 0532 322684

Ease of use ---------------------8
Implementation ---------------8
Value for money -------------9
Overall ---------------------------8

Desktop Video CD

When it comes to digital libraries, Almathera seems to have done more than most on the serious CD front. Now it's offering a disc aimed specifically at the Amiga videographer and ray-tracer.

CD collections containing textures and backgrounds are nothing new, and unfortunately the same images seem to be duplicated on many of the products available. Thankfully, there seems to be a reasonable amount of original material here.

For example, Scala users and video makers may find the collection of flag backdrops useful. There's also a good range of anti-aliased fonts, with sizes ranging from 20 to 300 points, that have been selected with video titling in mind.

Ray tracers are always in search of 3D objects to use, so they should be interested to know that 150 models have been provided for LightWave, Imagine and Sculpt. Items range from cups and teapots to toilets, and though they are not as plentiful or well drawn as objects on the Syndesis collection reviewed recently, they are well worth having at this price.

Useful video-related PD utilities have been included on the disc, a bonus that allows people who don't have the expensive presentation software to make use of the material on the product.

Encompassed in this section are programs like Main Actor and Anim Players for your animations, Persistence of Vision for ray-tracing and Black Board for image processing. There's also support for graphic cards like Opalvision and Picasso II.

This all sounds pretty good so far, but I was expecting to have to pay more than the usual asking price. Amazingly, however, this CD is actually cheaper than the more general CD collections, making it a must for anyone even vaguely interested in video.

Image Formats	JPEG, Overscan IFF, Video Creator
Fonts	Amiga colour, Type 1 PostScript

The bottom line

Desktop Video CD
Price: £14.95
Supplier: Almathera
Tel: 0181-687 0040

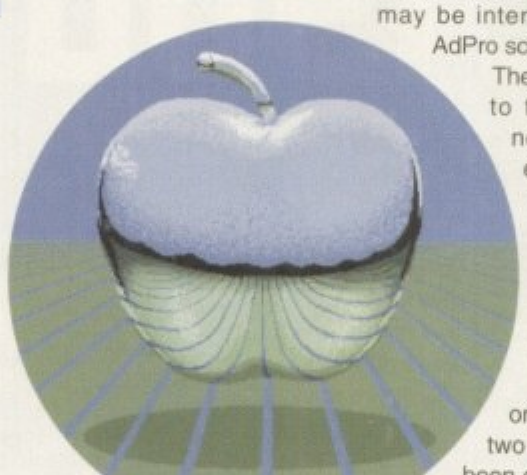
Ease of use ---------------------7
Implementation ---------------9
Value for money ------------10
Overall ---------------------------9

CAM Collection CD

CAM is another PD collection, but it's different in that it encompasses the Canadian PD scene. Though some of the programs can be found on Fred Fish collections, anyone who buys it is bound to find a reasonable amount of fresh material. It's the usual mixed bag when it comes to the quality of the programs. There's lots of useful items but it does take time to find them among the less interesting games, demos and utilities.

Worth searching out is the Homebudget program, a PD tool designed to assist you with your domestic finances. In fact, CAM's good on the domestic side in general.

On the creative side there's material to use with Imagine (plus a few items for Lightwave) and a number of standalone graphic utilities. Image studio, for example, is an image processing clone of AdPro. If you already have the real thing, however, you may be interested in the included AdPro scripts.



The addition of Main Actor to the package is good news for anyone interested in trying their hand at animation. DTP users, on the other hand, will be pleased to find a range of fonts to play with.

CAM is truly vast: not only does it spread over two CDs, its files have all been crunched as LHAs. This means they have to be unpacked, but this isn't too much of a problem since it can be done from within the Amiga guide.



Unfortunately, the way the collection works is sometimes bizarre. You'd think CD-ROM would put an end to disk swapping, but some programs actually require you to swap CDs. What's more, there's further messing about when you're unpacking onto floppys.

CAM is supposed to be better organised into categories than its rivals, but I found the guide rather inconsistent and unclear at times. Still, there can be no denying that patient people will be able to find some very handy programs here.

The bottom line

CAM Collection CD
Price: £24.95
Supplier: Almathera
Tel: 0181-687 0040

Ease of use ---------------------7
Implementation ---------------7
Value for money -------------8
Overall ---------------------------7

Shock! Horror! Controversy!

What sells anything? Sex and violence of course but how far would you go to sell a product? Adam Phillips investigates

The last two years have seen the computer entertainment's approach to advertising mature. With the realisation that game sales can equal and even surpass those profits made from blockbuster films, the adage that advertising, not quality, sells a product has filtered into the games industry.

The results have been apparent. Eye-catching television and cinema commercials, printed adverts that don't look as if they were designed in the early '70s and so many gimmicks, freebies and mugs with Zool plastered on them that you wonder if the publishers actually remembered to commission the game during the flurry of marketing strategy meetings.

As the competition heats up and more money is poured into the advertising agencies' pockets than the programmers, the unavoidable problem arises – how do you get your product heard above the shouting and screaming of others as each clambers for space at the top of the software chart?

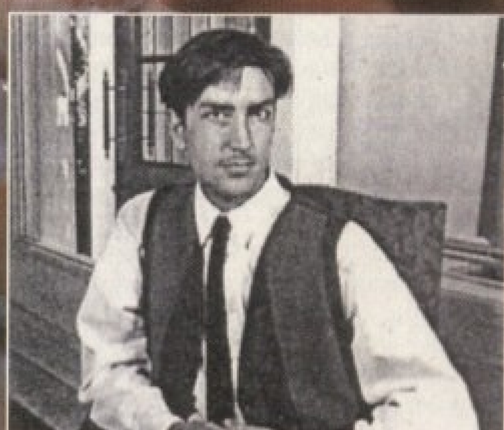
Controversy. Not so much as to get the advertisement banned, unless in extreme cases, but enough to raise a few eyebrows and start the finger pointing without sticking the censor's knife in. Whether it be advertising a game's more fascinating features such as people's heads being torn from their shoulders or offending religious segments of our society, game publishers continue to walk this tightrope in hope that the end justifies the means.

Judging from the results, it's paid off as well and marketing budgets have swollen, increased and outgrown the games themselves, spawning books, films, cartoons and comics.

Since the dawning of the computer game era, there have been attempts by many publishers to focus the general public's gaze on their wares through the use of sexual innuendo or promises of horrific violence in the shape of self-imposed film certification-like labels splashed across their boxes, but the global hype of the kind that we see today was triggered by a very important event in computer game marketing history – Mortal Monday.

On that day, Mortal Kombat was released to an expectant and eager consumer. What was so different about this title was the campaign that backed it up. Never before had so much time and money been invested in a single game.

Television, billboards, magazines and other avenues of advertising were all used, with a coherent and researched theme running through each. While the aim was to keep controversy at a minimum due to the concern over media backlash, Mortal Kombat was to set the trend by which future campaigns, controversial or not, would be judged.



Horner: "You come across barriers and conventions that you try to break. Sometimes it works, sometimes it doesn't"

The rise, rise and rise of the robots

The game is simple – beat the metal bolts out of some renegade robots and you win. End of story. Take away the impressive looking graphics, intros, cutaway scenes, Brian May 'score' etc. and you're left with what amounts to a rather average title.

Then the marketing division cram into the board room and the money talk begins. ROR must be one of the most hyped games in the history of computer entertainment. First talked about well over a year ago, the production has been delayed, expanded and apparently improved upon for several long months.

Pages of magazines have been filled constantly with interviews with the makers, sneak previews of the graphics and finally cover mounted disks for punters to at last see what the fruits of marketing labour has born unto them.

On final arrival, it's obvious that the game content itself isn't going to raise the eyebrows of monitoring bodies – chunks of metal flying across the screen doesn't really match the sight of somebody's spinal body being yanked from their body aka Mortal Kombat II.

So why has the game advertisement been banned during children's and religious programming by the Broadcast Advertising Clearance Centre? If you haven't seen the advert then, like the game, it is simple – cue shots of black and white footage with a Mary Whitehouse-like voice-over talking about the beauty of yesteryear and its pastimes. Then cue a large robot smashing through the scenery and looking menacing.

Include headlines that flash above the metal hunk such as "Are you religious?" and "You can't dance with broken legs" and the controversy begins. To top this, place an ad in the popular *Viz* comic with a large robot saying "I want to kick your f***ing head in" and people are hopefully going to stand up and take notice.

Jeff Tawney, marketing manager at Time Warner Interactive, is quite happy to admit that controversy in most cases is by no means a bad thing. His brief to the advertising agency, Musto Merriman Herrinh Levy – a hot-shot new company based in London responsible for commercials for Prudential and Lowenbrau Lager among others – was to create an advert that would stay in people's memories long after viewing.

"You need strong advertising to reach the widest possible audience and to stand out from the usual lame competition", commented Tawney. In fact, Tawney has loved the

➤

backlash and believes that the commercial doesn't harm the image of the software industry. "It's tongue in cheek and not meant to be taken seriously," he said. "If people are offended though then that's their problem."

At MMHL, Damien Horner commented on the ROR: "The strategy behind the campaign was that gamesplayers pride themselves on their gameplaying abilities and we were issuing a challenge to them – like two boxers psyching each other out before a bout."

They also wanted to zero in on the rebellious nature of gamesplaying – that parents don't understand computers but their kids do. "We were told that being controversial would not be a problem" commented Horner. "We did what we felt would be most appropriate and given the objectives of the game and audience, the controversial approach was deemed to be suitable."

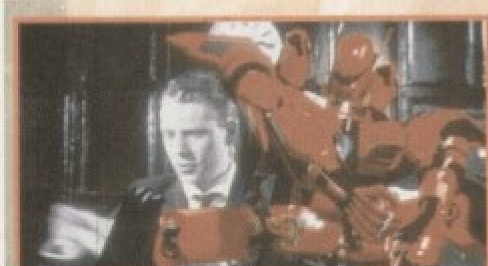
Then the problems started. The Broadcast Advertising Clearance Centre said no to the first proposal, deeming it unsuitable for television. "They said: what you're doing is endorsing and advertising violence," stated Horner.

Subsequent revisions reduced the strong phrases that appeared with the robot. "It's only worth getting banned if the PR coverage you get out of it outweighs the media spend you could put behind it," Horner reflects. "If you only receive a couple of articles (in the national or specialist press) for being banned, you could actually lose money."

Companies' appetites for controversy are constantly fuelled for bigger and better campaigns – "With being a new agency, you contract clients who want to push things forward a bit, who are slightly braver in their approach and consequently work tends to reflect that," said Horner. "You come against barriers and conventions that you try and break. Sometimes it works, sometimes it doesn't."

So where does the buck stop? Asking Horner about the likes of Doom 2's campaign, where Jiffy bags of offal were sent to publishers, he is not impressed. "It's controversy for controversy's sake. The Rise Of The Robots commercial was rooted in the game itself, based on an overall strategy. The likes of Doom 2's campaign suggests either a lack of budget, or a lack of an idea."

Even advertisers can have their standards...





The ROR advert mixes black and white footage of yesteryear with threatening robots issuing ban-worthy challenges to the viewer

Accidental anti-hero

It started with a poppy. Sensible Software was just about to release a high-calibre game called Cannon Fodder and a cover was needed for the packaging. No advertising agency was called in, no special marketing department was mobilised – no, the lads down in Cambridge came up with the press-stealing image by themselves.

And then all hell broke loose.

Amiga Power, the games magazine, had intended to publish the December issue to coincide with the release of Sensible's Cannon Fodder. When the Royal British Legion learnt of the box design and intended poppy motif cover, strong words were exchanged and the artwork was withdrawn by both parties. The acting editor at the time, Stuart Campbell, wrote an unfortunate comment that he regrets in the editorial which we are unable to print for legal reasons.

With this, the hounds of Fleet Street's press pack were unleashed. A story appeared in the Daily Star condemning the comment. Subsequently, Campbell received death threats from sons whose fathers had fought in the war.

As cynical or distasteful as it sounds, a marketing situation had developed that most companies would kill for. Perhaps the game would have sold just as well on its critically acclaimed merits alone, but it would seem that publicity such as the Amiga Power-Cannon Fodder episode can only help a game's sales figures.

"We didn't choose the poppy to cause a fuss. We chose it because the poppy symbolised people dying in war and a lot people die in Cannon Fodder so it seemed appropriate" said John Hare, head of Sensible Software.

And the song "War's Never Been So Much Fun" featured in the intro to the game? " We chose the song because it's a piss-take. There's a strong element of satire in there but certain people don't seem to appreciate satire, especially in computer games."

And those sort of people are the Royal British Legion. Jeremy Lillies, a spokesman for the RBL commented: "The whole thing was totally unacceptable to us,. had the poppy appeared on the cover, it would have caused grave offence to the ex-service community which forms about a third of the population of this country."

While financially, the unexpected publicity may have paid off, Hare is not so optimistic about the creative restrictions that controversy can produce – banning, legalities and other such barriers he believes are stunting the growth of adult-related software titles. "It's becoming a nightmare for us with all this legal rubbish. It's getting in the way of producing games and is going to become a serious problem."

As for the marketing push behind such titles as Mortal Kombat II and Rise Of The Robots,

That game's got guts!

Doom created a global phenomena on its release. Massive corporations ground to a halt as employees jammed the network while indulging in multi-player games of the first person shoot-'em-up. The computer press went crazy. Anyone who didn't own a PC felt pangs of envy, and the game has entered the gaming Hall Of Fame to stand alongside the likes of Elite, Streetfighter II and others.

Virgin started with a surefire thing when ID software, the developers of Doom's sequel, sold them the distribution rights. Doom 2: Hell On Earth could have been released without a single advert and still cleared up financially, but in true Richard Branson style, putting up with only second best has never been enough.

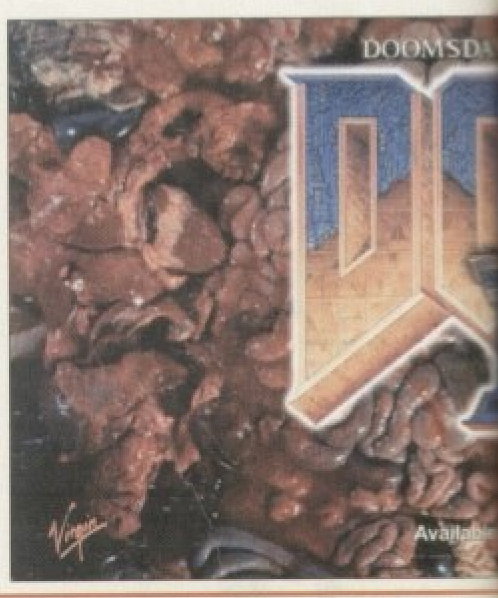
"Our intention was always to create a controversial campaign," states Paul Dowling of the creative agency Leisure Process Interactive. "Doom 2 is a brilliant game that is bloody and aggressive. We took this creative idea and needed to portray it in one message."

The main offensives of the campaign were the rather graphic ads placed in the press, on billboard posters and in a series of jiffy bags sent out to certain journalists and publishers. These were designed by Bastion, a PR company brought in by Dowling.

The main feature of each of these was a rather large amount of offal. The posters consisted of various bodily organs in sickly close-up with Doom 2 prominently splashed across it.

The same style was used on the billboard adverts that sprung up in 48 different sites around London's West End.

"We knew it would upset people but it wasn't a problem because we needed





Royal British Legion: "The whole thing was totally unacceptable to us"

he states: "There is perhaps a glorification of violence but people can deal with it."

Since the controversy over the original, Cannon Fodder II has been released with the focus aimed squarely on safely getting the products on to the shelves. As for future releases, one Sensible Software title concerns sex, drugs and rock 'n' roll and, instead of the potential controversy encouraging buyers, John Hare knows that, while potential publishers like the game content, they fear releasing the title because of the expected media backlash that would accompany it.

that campaign to generate the PR," commented Dowling. Meanwhile, Virgin's marketing manager, Simon Jeffrey, offers the official line: "We never mean to offend people – what we want to do through our marketing is to grab people's attention."

ENTRAILS

The final and most attention-grabbing scheme were the bags of animal entrails sent to various newspapers and other publishers. The instant reaction was one of disgust from some quarters. Apparently, a vegan from *The Independent* rushed round to the Virgin headquarters to complain strongly.

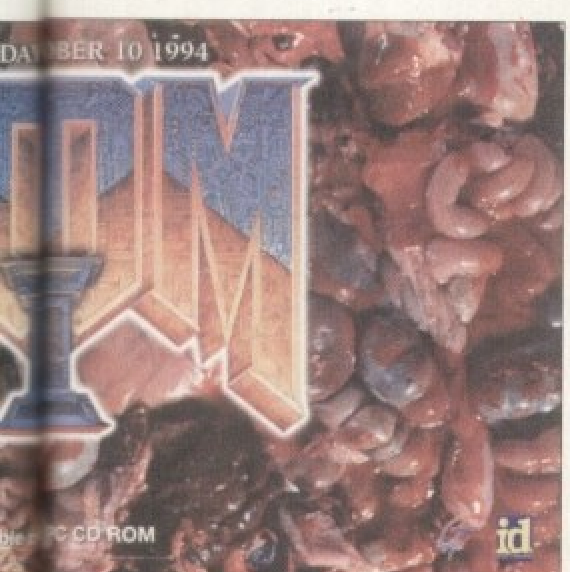
The Mail and *Evening Standard* threatened police action, claiming the package infringed Section 5 of the Public Order Act which states it is an offence to deliberately cause distress to people.

Jeffrey clearly states though: "Nothing came of the campaign [in terms of adverse publicity]. We did have the police after us and they asked us to calm down our marketing activities, which is fair enough."

The biggest fuss though was centred round a demand for dry cleaning bills to be paid – apparently, some of the packages leaked their contents onto unsuspecting newsdesk editors.

"I have to say, we did get a lot of irate calls from people claiming their suits had been ruined and that they were going to hit us with a bill for it," commented Ciaran Brennan from Bastion. "But we never received any bills so I don't think anybody actually suffered because of it."

While there is never any way of judging exactly how successful a campaign has been, the simple fact remains that Doom 2 continues to sell at a rather healthy rate, and Brennan is happy to admit: " Well, it wasn't the nicest thing we ever did."



Featured on 48 billboard sites in London, the Doom 2 poster was removed with the aid of complaints made to the ASA

Another campaign from Virgin, this time Earthworm Jim, a new platform game. There have been problems with the arrow pointing at the ballet dancer's crotch and in subsequent ads, it has been removed from certain billboard sites.



Advertising Standards Authority

While the creative agency behind the Doom 2 campaign told us that the Advertising Standards Agency received a 'flood' of complaints about the billboard sites in London, in true advertising tradition the truth is just a touch more unexciting than that.

Caroline Crawford at the ASA commented: "We contacted the advertisers and said, are you planning to use this campaign again because we've had a couple of complaints about it and the general public might not consider this approach to be very tasteful? And they said: No, we're discontinuing this particular poster, so we didn't feel any further action was necessary."

The ASA has the power to have an advertisement (not television or radio) removed over night if necessary and doesn't require a certain amount of complaints to use its authority. As for the computer game industry's advertising as a whole, controversy is the exception to the rule, not the norm, at the moment.

"Many game publishers using product placement or advertising within games are concerned to be seen as responsible advertisers, so they have been contacting us to get our opinion before sending the ad out. We welcome that kind of contact."

The worst case scenario is, if advertising becomes more and more controversial there's a chance that legislation will be slapped on the games industry which could, potentially, be far more damaging than working within 'the reasonable guidance' of the Advertising Standards Authority.

At the end of the day though, Crawford doesn't see authority groups as the real threat to the games industry, but the consumers themselves. "Quite often it's the consumers who say: that's enough, that's gone too far"... Parents are very concerned about certain sorts of material and might try to restrict their children's access to it. This in turn affects the commercial viability of a product, so the industry's self-restraint is guided by what the consumer will find acceptable."

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The big

Darrens Evans checks out three contenders in the RTG graphics board's battle for your wallet's attention

RTG, an acronym for ReTargettable Graphics, was a proposed standard developed by Viona Systems which set out to allow users to plug third-party graphics hardware into their Amiga, thus allowing Amiga software to use the cards display as though it were normal Amiga graphics.

Of course, as is the case with many proposed standards, success usually requires a high degree of co-operation between both software and hardware developers.

It's therefore the job of the party proposing the standard to lay down ground rules so that the software and hardware developers have solid guidelines to work to, thereby avoiding any conflicts and incompatibility problems.

Unfortunately, this RTG standard never quite took off. Thankfully though, whatever ground rules were initially laid down seem to have worked well, and the graphics cards available today work with relatively few problems, providing users with more powerful Amiga graphics.

In general, more powerful graphics means faster screen updates through hardware blitters, 24-bit colour modes (16 million colours) in higher resolutions than Amiga graphics can provide.

However, as with life in general, things aren't quite perfect and there are a few, misbehaved applications which stray too far away from the RTG standard guidelines and thus do not work properly on the cards. When shopping around for RTG boards, it's wise to create a list of software which you want to use with the card so ask the supplier if there are any known problems with that particular software. On the whole though, you should encounter few problems.

Also, check your software's documentation. It may well list a specific range of boards which it will happily take advantage of if present.

It goes without saying that the main use of these cards is to provide a more enhanced graphical environment for applications such as DTP, image processing, rendering and even just as a general accelerator for the relatively slower native graphics system of the Amiga.



Inside the EGS screen mode utility. Huge Amiga screen bashing resolutions at the touch of a button

EGS 28/24 Spectrum

First in this three card line-up is the EGS 28/24 Spectrum by GVP (the EGS was another standard which didn't quite stick but still works well) coming in at a relatively inexpensive £300. Installation of the card is simple enough, fitting into any spare Zorro slot and automatically sensing whether it's Zorro II or III.

The 28/24 communicates with the CPU over the usual Amiga data bus, unlike its predecessor, the 110/24, which enjoyed the speedy direct access when communicating to the Combo's 32-bit local bus. Its onboard blitter chip runs at 28MHz – again, not as fast as its predecessor but still a respectable pace giving faster screen updates.

Although the 28/24 will most likely become your primary display system, it has its own video controller and its graphics display is completely independent of the Amiga's native screen modes.

However, programs can operate in either display system or in both simultaneously. Therefore, it's possible to construct your system around either a one or two monitor setup.

The Amiga's RGB output can be passed through the board out to a monitor if you want to be able to use a single monitor, both with the Amiga's native screen system as well as the enhanced 28/24 modes. A DB-15 to 15 patch lead is supplied as standard for connecting the Amiga's DB-23 RGB output to the 28/24, so a DB-23 to DB-15 adapter is required.

Although the 28/24 can operate on a standard RGB monitor, the higher colour/resolution modes will require more expensive multi-frequency monitors, with the extreme resolutions of 1600x1280 needing (even more expensive) monitors with generous horizontal and vertical frequency ranges.

The installation program provides drivers for a number of monitor models, including the Commodore 1950, but strangely, no support for the 1942, which is generally accepted as the most popular low-cost Hi-res Amiga monitor.

Using a simple bi-sync or SVGA monitor should, at best, allow for a 24-bit screen at 800x600. However, most monitors should be capable of handling 24-bit screens at 640x480.

The EGS Workbench driver allows you to open Workbench on the EGS system, allowing any Workbench-based software to be displayed in up to 1600x1280 pixels in 256 colours (monitor permitting). In general, if a piece of software runs in a window on a workbench screen, it should work fine in EGS Workbench emulation.

Performance is very good thanks to the EGS 28MHz blitter hardware – it is similar in function to the Amiga's graphics co-processor. Also, the 28/24's mouse sprite is a 64x64 four colour hardware sprite used as the custom cursor. Other display boards often use software to draw the mouse, adding extra overhead to the graphics system's performance.

Use of this hardware sprite also negates the need to 'clip' or modify the display to account for mouse movement. All this adds to a rather good improvement in screen updates. Even on an A400/040, a 256 colour Workbench screen is noticeably slow on the 28/24's display, but on the EGS system it's very smooth and responsive.

This is ideal for DTP users, who will definitely notice a drastic increase in screen updates when scrolling through large colour documents, and who also benefit from larger work areas.

As well as the installation software, which by the way is fairly painless and trouble free to use with the only problems you'll



Spectum EGS and its accompanying paint package are impressive but will it survive against the speed of Retina and third support for the Picasso

picture



A familar approach to the EGS screen mode selection. However like everything on the Picasso it's been beautifully integrated into Workbench

encounter being having to guess the correct driver for your monitor if it's not listed by name, you also get EGS Paint, a 24-bit art package.

It's quite a good bit of software too, although it has no alpha channel support and the airbrush leaves a lot to be desired. It takes full advantage of the EGS 28/24's hardware too, allowing you to scroll through a 1.5Mb 24-bit image with the speed you'd expect from scrolling a 16 colour picture.

The dark cloud on the horizon, however, is GVP's uncertain future in the Amiga market. Should the company cease trading, its products may well reappear under a new distributor, but this is by no means certain. You may therefore end up with a very good graphics board but product support and updates may not be available.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

1 Mb Chip RAM

2 Mb Fast RAM

Hard drive

A2000, A3000 or A4000

2 Multiscan monitors

4 Mb Fast RAM

The bottom line

Product: EGS 28/24 Spectrum
Supplier: Silica, Silica House, Hatherley Road, Sidcup, Kent DA14 4DX
Phone: 081-309 1111
Price: £299



A well proven quality product in the form of TVpaint junior – shipped as standard with ever single Picasso sold. An impressive combination of 24 bit elegance and excellent freebie utilities

Picasso II

The next offering is the Picasso II board from Village Tronic. It's a full length card and has dual monitor ports and a pass-through cable to make life easy for one monitor owners.

The installation software is a breeze to use and this ease-of-use continues through to the actual setting up of the screen modes and monitor type. In fact, it's the most friendly and easiest to use of the bunch.

After the installation has finished, a quick visit to the Amiga's standard ScreenMode utility in the preferences drawer reveals a host of new Picasso specific modes. Simply choose a screen mode and off you go.

SELECTING

When you run any software under a Picasso mode for the first time, a requester appears asking if you want to select a particular Picasso mode.

Selecting yes will bring up another selector with a list of screen modes to choose from. Select a mode and Picasso makes a note in a list. When the application is executed at a later date, it automatically uses the mode chosen.

Performance wise, there's not a great deal of difference between the Picasso II and the EGS Spectrum, though the Picasso does seem to have the slight edge. You can also be sure of good product support and updates from Village Tronic, which doesn't seem to be the case with GVP's currently uncertain future.

Picasso's greatest strength lies in its superior support from third-party software over the other boards. This includes applications which have direct support for the Picasso abound, such as Lightwave, Forge and TV Paint 2 (TV Paint Junior is supplied with Picasso).

There are also a great deal of graphics software packages which support Picasso as a frame buffer. Widespread support from software developers is probably the main goal of all RTG board manufacturers and Village Tronic seems to be doing a good job, either directly, by talking to software developers, or indirectly, by merely having such an easy to use and installable card with great performance.

> Picasso's greatest strength lies in its superior support from third-party software over the other boards

UTILITIES

As with the other graphics cards, Picasso comes with many software utilities such as picture viewers, monitor utilities and more.

The included TV Paint Junior is an art package with some good features. So, once you have your Picasso installed, you can start admiring and creating your own pictures in glorious 24-bit colour.

With such support from third-party developers, combined with its ease of use and great performance, the Picasso II, in my mind, is definitely the best buy of this bunch.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

1 Mb Chip RAM

2 Mb Fast RAM

Hard drive

A2000, A3000 or A4000

2 Multiscan monitors

4 Mb Fast RAM

The bottom line

Product: Picasso II
Supplier: Blittersoft, 40 Colley Hill, Bradwell, Milton Keynes, Bucks MK13 9DB
Phone: 0908 220196
Price: £299.95

Retina BLT Z3

This graphics card is from MacroSystem. Unlike the other two cards reviewed here, the Retina does not feature dual monitor ports. There were, however, two video output ports present, one composite and the other Y/C, which was interesting. Unfortunately, to make use of these, a separately available PAL encoder card is required, which fits to the Retina board.

Compared to the almost transparent way the Spectrum and Picasso boards handle the retargetting of graphics, the Retina was a little more involved.

Firstly, you select your monitor type using the RetinaScreenMode program. Once selected, a list of screen 'groups' appears. These groups can be expanded to show the various screen modes contained within that group.

RetinaEmu is the next program that's run and is also the core of the Retina system. Every time you execute a program which hasn't been used under Retina before, it makes an entry into a list.

PROGRAMS

It is then possible to select the new program entry and choose a Retina screen mode to run it in. In real use this works very well and relatively few programs complain – barring the real stubborn programs which use custom graphical interfaces instead of 'proper' intuition screens. Eventually, and hopefully, all your favourite software is suitably noted by Retina and ready to use instantly.

For the really fussy among you who want to squeeze every last pixel out of your monitor, there is a monitor setup utility called, strangely enough, DefineMonitor. With this you can fool around with frequencies, pixel clock rates and colour depths so that you can tweak additional screen modes to add to the already large list supplied as standard.

Retina comes with a host of tools and utilities. MakeRACE, for example, is the rather cryptic name for a utility which is used to create 8, 16 or 24-bit animations, automatically dithering frames down to the appropriate number of colours using the Floyd-Steinberg method.

Once an animation has been created, you can also add a soundtrack to it. The sound format can be in 8SVX, or MacroSystem's own Toccata or MaestroPro formats for 16-bit quality.

To view the animation, two more programs are required. PlayRACE plays back the animation from Ram and CopyRACE does the same, but uses the much slower hard disk.

In order to view pictures in all those juicy high resolution multi-coloured screen modes that Retina gives you, you are going to need viewer software.

This can be done via a standalone viewer which handles formats such as BMP, JPEG, VLab and all the varieties of IFF.

VIEWING

To view a picture, it's a simple matter of dropping a picture file icon onto its Appwindow interface. It's also possible to run it from the Shell and can thus be incorporated into nifty programs like Directory Opus. There are also dedicated viewer files supplied for ADPro and ImageMaster users.

Once you have installed and set up the Retina software and screen modes, the Retina's Workbench emulation is impressively fast. Out of the three cards under scrutiny here it is the fastest – hardly surprising considering its 4Mb on-board Ram and an operating speed of 110MHz. The 256 colour screens operate like four colour ones and windows zap open with an ensuing mad rush of rapidly appearing icons – this is how life on all Amigas should be.

So, performance wise, there's nothing to complain about. However, a few areas in the overall Retina package need to be cleaned up and generally polished. First of all, a more intuitive and less involved method of setting up the modes would be helpful in bringing it closer to the ease of use provided by EGS Spectrum and Picasso. Also, there are quite a number of German readme files in the Retina drawer, which don't seem to have an English equivalent.

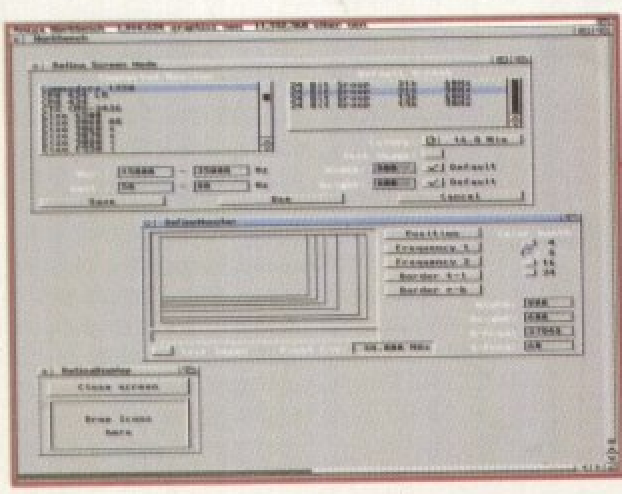
DAMAGE

The Retina card itself is not a full length card either, and as such is prone to wobble and hence possible damage when putting it into the old Zorro III slot. Notice I specified Zorro III, which pretty much tells you that this Retina is a Zorro III only card.

The Amiga's slot guides are there for a reason and all Zorro cards should really be full length. And for the proverbial icing on the cake, dual monitor sockets and appropriate pass-through cable would also make life easier for single monitor users who come across Retina's unfriendly software. AC



The stylish face of Xipaint. Arguably not the simplest paint package in the world but the underlying power is nevertheless pretty impressive



The classic MacroSystems approach of unrivalled user configurability. The question is does such a degree of control make life harder than it needs to be?

As a final reminder

When looking at a graphics card, keep in mind these few points

1. Think about the software you will be running with your shiny new graphics card. Although, in general, compatibility is very good, there are some applications which will not work with the enhanced screen modes. You should particularly check the manuals of any graphics software you have – you may find it directly supports a particular graphics card.

2. Make certain you know what bus type the card will work with. You don't want to buy a card to plug into your Zorro II slot, only to find it's Zorro III-only do you? Most good graphics cards are compatible with both slot types and automatically sense which slot they are in, adjusting themselves accordingly, so look for this feature.

3. Take into account whether the board has a pass through port and cable. This makes life much easier for single monitor systems. If an application doesn't like your board's screen modes, you can bypass the card through the port – with no need to keep swapping the monitor plug between card and standard Amiga video port.

4. Remember, high resolutions and colour depth (number of colours on screen) require flexible monitors with generous frequencies. A standard 1942 monitor can handle a maximum of 800 X 600 resolution in 24-bits. So, if you are looking to buy a monitor with your card, make sure it can handle the resolution you require.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

1 Mb Chip RAM — 2 Mb Fast RAM — Hard drive

A3000 or A4000

2 Multiscan monitors — 4 Mb Fast RAM

The bottom line

Product: Retina BLT Z3
Supplier: MacroSystem
Tel: 0896 870583
Price: 1Mb £412
4Mb £540

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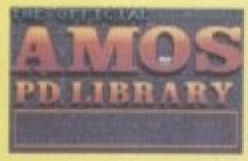
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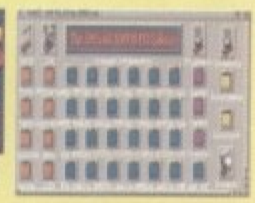
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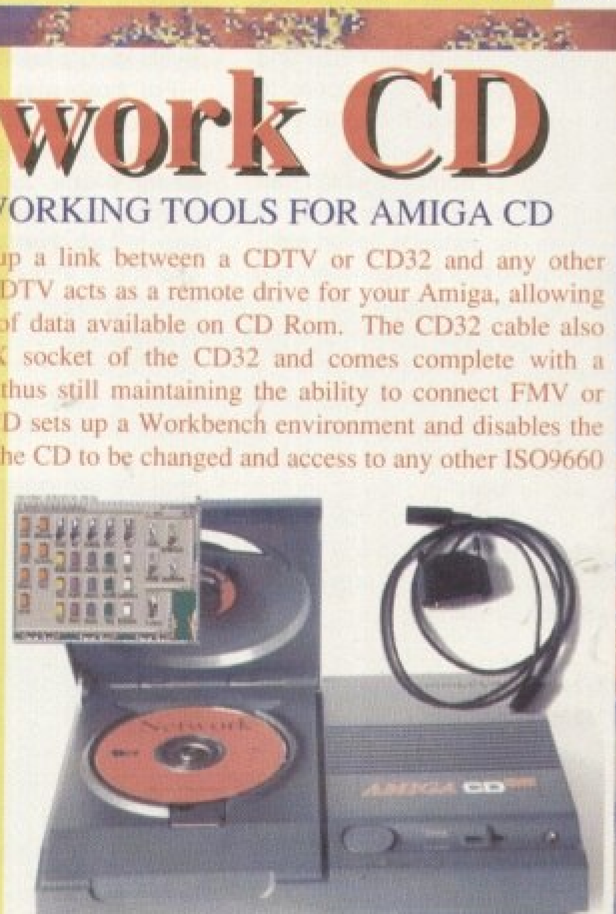
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A bumper-sized helping of affordable but impressive software comes under Dave Cusick's critical eye

The festive season may have seemingly exhausted your finances, but that's no reason to deny yourself decent software. Without breaking the bank, you could very soon be enjoying one or more of the following offerings...

My Mamma was a Vampire AGA

Programmed by: Duplo Productions
Available from: OnLine PD
Disk Nos OX100 A/B (75p + 75p P&P)



My Mamma Was A Vampire features an impressive variety of effects such as this cloud-like sequence

It may be puzzlingly named, but this demo is slickly presented and features some nice effects. It has the obligatory zooming mandlebrot sets but to be different, replaces rotating Julia sets with rotating pictures of Julia Roberts.

There are also fluffy shapes which swirl around the screen in a dreamy way and an effective fire effect has small flames dancing at the bottom of the screen. The on-screen events are nicely synchronised with the predictable but bearable tune. In short, this isn't

Dynamite Warriors v2.0

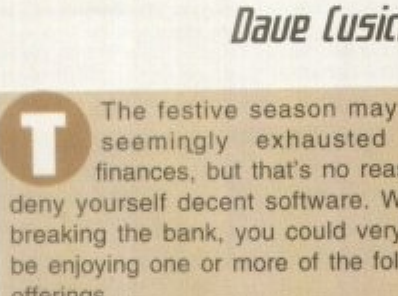
Programmed by: The Peace Brothers
Available from: OnLine PD
Disk No. OF74 (75p + 75p P&P)

First impressions aren't too good with Dynamite Warriors; the opening screens combine a smattering of expletives with praise for, erm, use of illegal substances. Still, a couple of mouse clicks and this fairly pathetic example of some self-important coders trying to appear interesting gives way to a curious and, surprisingly, reasonably decent game.

Between one and five players can participate, with any number of these being computer controlled if you don't have a bunch of like-minded individuals to hand. Each controls a colourful bloke wandering around a maze in what looks like a spacesuit. Their back pockets seem to be stuffed full of bombs which can be planted anywhere on the screen. After a five second countdown these promptly explode, destroying nearby blocks of the maze and any unfortunate opponent who happens to be in the immediate vicinity. Killing all your opponents is the ultimate objective.

There are plenty of bonuses which can be picked up, although they are not all beneficial – some, for instance, invert sideways joystick movements so that when you push left your character moves right. The action can be quite frenetic at times, although things can slow down when a great deal is happening on screen.

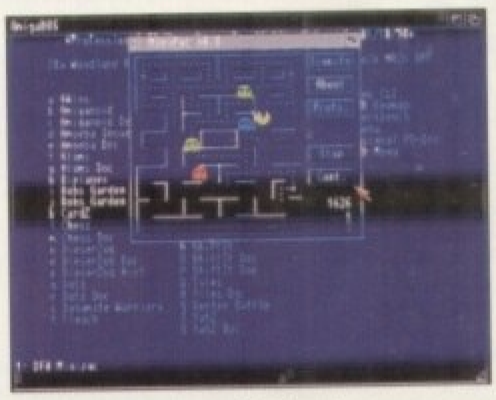
While you're busy scrambling around trying to avoid explosions, in total contrast, calming music is warbling away in the background. This is the sort of game that could prove quite enjoyable if you've got company, but don't expect it to provide too much one-player entertainment.



With the object simply to be the last man still alive, Dynamite Warriors is frenetic fun for up to five players



Cunning tactics in Dynamite Warriors; stand still and let the computer warriors fight among themselves



Play Pacman on your Workbench screen with MiniPac, one of the many fine games on MegaDisk 1

Mega Disk 1

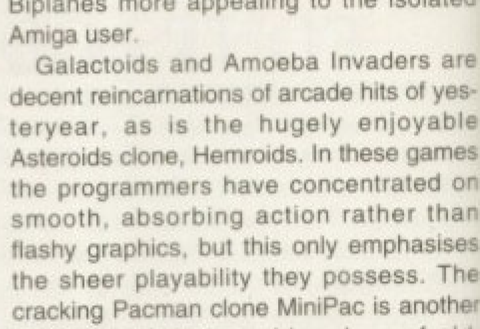
Programmed by: Various
Available from: Professional PD
Disk No. MG01

Professional PD claim that its new Mega Disk series will represent exceptional value, and it must be said that this first offering certainly does. Featuring no less than 25 games, complete with their documentation, a user-friendly menu system ties things together and makes using the disk a simple and pleasurable experience.

What of the games themselves? Well, firstly there's Biplanes, which features the same sort of aerial japes as that PD great – Dogfight. Here, only two players can participate as opposed to four, but there is a tough one-player mode which makes Biplanes more appealing to the isolated Amiga user.

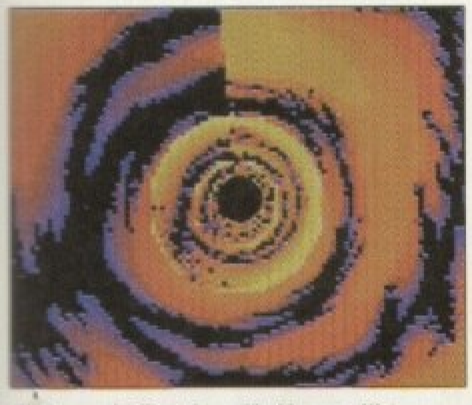
Galactoids and Amoeba Invaders are decent reincarnations of arcade hits of yesteryear, as is the hugely enjoyable Asteroids clone, Hemroids. In these games the programmers have concentrated on smooth, absorbing action rather than flashy graphics, but this only emphasises the sheer playability they possess. The cracking Pacman clone MiniPac is another reminder of those golden days of old, although here only the first level is a true copy of the arcade game and subsequent levels feature totally new dot-filled screens.

For those who are keen on games of a more cerebral nature, Chess is also included, and ShiftIt simulates one of those bizarre plastic things with sliding tiles that used to be quite popular a decade or so ago. In fact, there's probably something for everybody and many of these games are window-based, perfect for running from Workbench. Armed with this disk, you'll have a whole host of distractions to stand between you and that really important piece of word-processing.



Relive early eighties arcade action with MegaDisk 1's Galactoid

ART of the MONTH



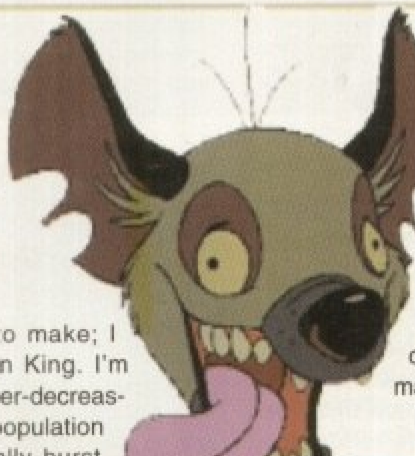
The tunnel effect from My Mamma Was A Vampire. Static screens can't really do this great sequence justice

at all bad. The real highlight comes in the second part of the demo. Following a remixed classical tune which I ought to know the composer of but don't, the viewer is launched on a technicolour journey through a spiralling tunnel. Again, it's not a new effect but it's done so well that it still impresses. This is followed by a phong-shaded rotating cube, the faces of which have colourful fractal patterns on them. Even on a machine without Fast Memory, the effect is so smooth that you can't fail to like it.

Perhaps more than most demos, this could be something you'll dig out of the diskbox in the future to show some PC owner what your machine is capable of. My Mamma Was A Vampire is definitely worth a look.

Lion King ClipArt

Produced by: Disney
Available from: KEW=II software
Disk No. V1126

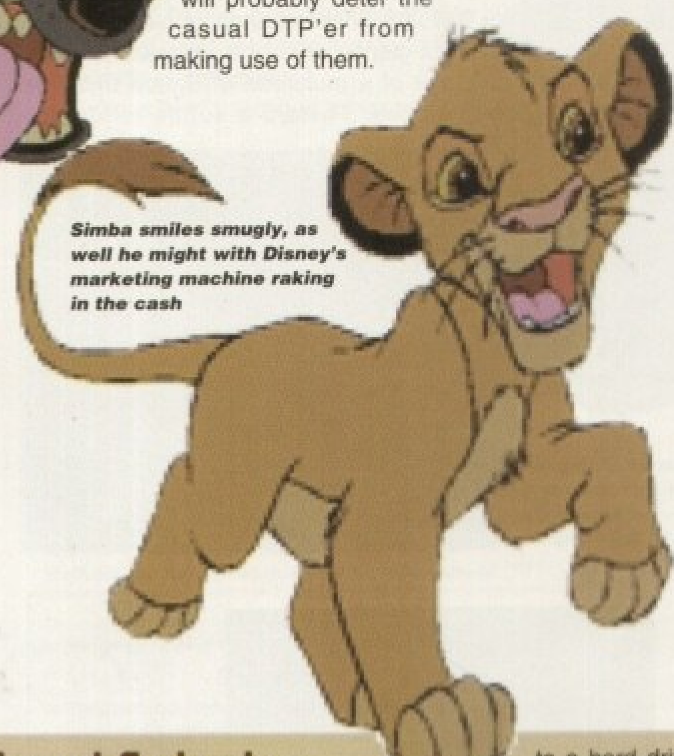


I have a confession to make; I haven't seen The Lion King. I'm therefore among an ever-decreasing proportion of the population who doesn't periodically burst into quick choruses of Elton John penned ditties. I'll be honest, I'd rather stump up four quid for some ultimately pointless, no-warm-feeling-on-leaving action blockbuster.

That said, I've got to admit that Disney makes some darned fine films. The combination of catchy tunes and wonderfully fluid animation generally transform a potentially tiresome fairy story into a magical experience for everybody. So you've seen the film, you've bought the merchandise... now you can use the clipart too.

There are three such disks in total, each containing plenty of exceptional quality, high resolution colour pictures. The main characters are depicted in numerous interesting poses, many of them quite comical.

There is a catch, however. Since it's all Disney copyrighted material, if you continue to use the images you should pay the shareware fee of 20 US dollars. While this isn't an unreasonable amount for such high quality images, it will probably deter the casual DTP'er from making use of them.



Simba smiles smugly, as well he might with Disney's marketing machine raking in the cash

Calling all PD libraries...

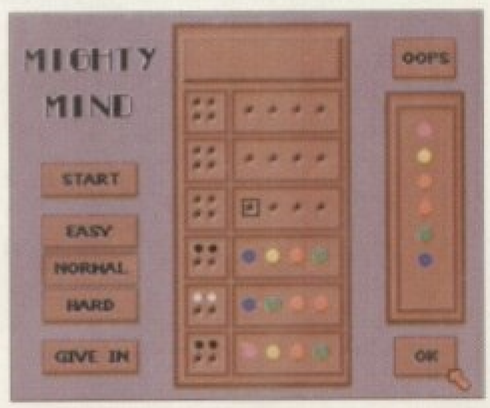
...and individuals with absolutely any program, whatever its purpose, which you consider worthy of review. Whether it will be freely distributable public domain, shareware or licenceware, if it's of sufficient quality to merit coverage then stick it in a jiffy bag or padded envelope and send it in with all haste. I promise I'll at least look at your work. Please clearly label the disk, and include a cover letter supplying a description of the disk contents and some basic instructions. The address to send the disks to is:

Dave Cusick
PD submissions
Amiga Computing
Media House
Adlington Park
Macclesfield SK10 4NP

Off You Go

Programmed by: Gina Mears
Available from: F1 Licenceware
Disk No. F1-054 (£3.99)

The highlight of this four-game kiddies disk is undoubtedly Mighty Mind, a colourful and highly absorbing version of the classic peg-game Mastermind. For the uninitiated, four coloured pegs are arranged in a sequence and the player must try to guess ➤



Brain-bending fun with Mighty Mind

Introducing Workbench and Amigados

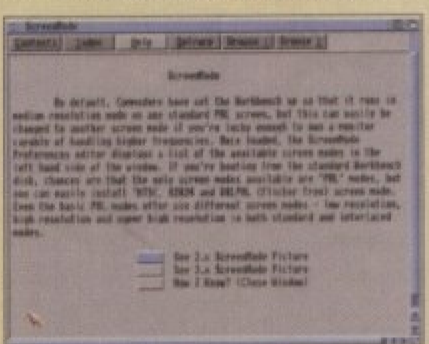
Programmed by: K Winspear
Available from: F1 Licenceware
Disk No. F1-051 (£4.99)

Booting up a Workbench 2 or 3 machine with the first of these two disks in the drive will bring up what looks like a pretty standard Workbench screen. However, click on a couple of the icons in the disk contents window and you'll soon realise that this isn't quite the case.

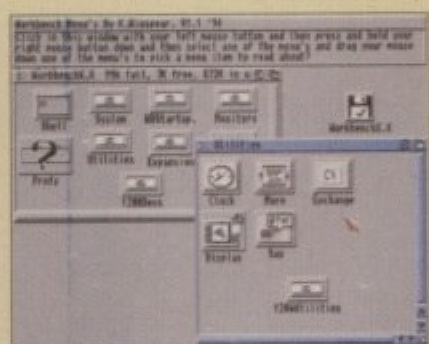
Each icon actually represents a document file on the drawer, command, commodity or whatever it depicts, so clicking on the Multiview icon doesn't run the program – instead it presents you with an Amigaguide file explaining the purpose of the program and exactly how to use it. Items selected from the pull-down menus also lead to helpful instruction files.

The second disk imitates the normal Workbench Extras disk and it's here that you'll find full explanations of the functions of Workbench Tools and Commodities. Thankfully, the often dreaded Amigados is also given a thorough explanation with each command covered in turn.

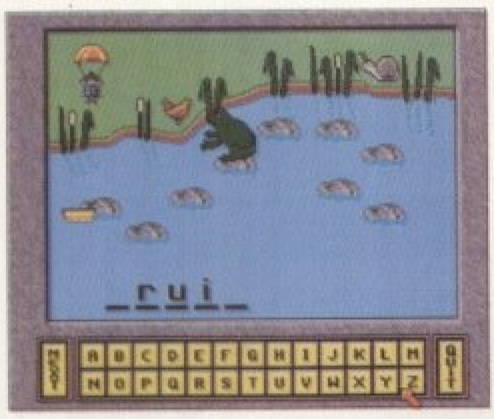
Also on this disk is a program called OnLineHelp. Once this has been installed to a hard drive (a case of following the on-screen instructions), assistance is available at any time from the Workbench by simply hitting the Help key. This guide is sure to be an immense help for the inexperienced Amiga owner and the creator should be commended for producing an easy-to-operate and extremely understandable guide.



Having worries with your windows or difficulties with your disk operations? Help is at hand from the Introduction to Workbench and Amigados



Double-click on an icon and access the relevant help file with the Introduction to Workbench and Amigados



It might be aimed at children, but some of the teasers Word Hop comes up with can be quite hard to guess

the code. Several attempts are allowed, and each time the player is told how many pegs are the correct colour but in the wrong position and how many are the correct colour in the correct position. It probably sounds confusing, but it's actually very good fun.

The title game itself, Off You Go, takes the form of a slightly tedious "board game" affair which, while being simple enough to be understood by its target audience of five-year olds, is perhaps not interesting enough to keep them occupied for long.

Word Hop is essentially Hangman, but instead of trying to save some poor soul from being dangled from the gallows, the object here is to get a bug to a boat before a frog consumes him. Colourful graphics help to ensure that this one will entertain youngsters for a while.

Finally, Find It uses the Amiga only as the basis for a game. A grid of letters on the screen is mixed around and then a timer starts counting. The idea is that players write down all the words they can find before the time runs out.

This is an interesting little combination of educational titles which, while appealing to youngsters especially, could entertain adults for some time too.

public sector

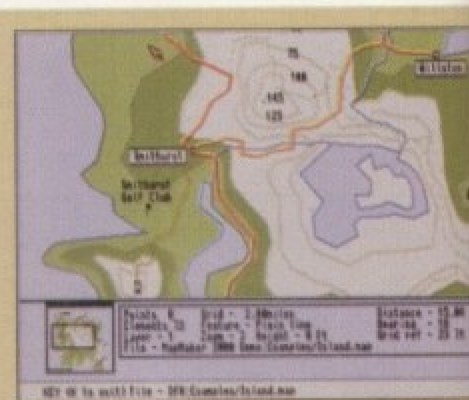
Mapmaker 2000 Demo

Programmed by: David Smith
Available from: KEW=II software
Disk No. D1060

This is a good idea; a shareware program for would-be cartographers everywhere. Mapmaker 2000 allows you to design maps or plans as if you were creating a picture in DPaint, using lines and fills. Here, however, there are added functions. With Mapmaker it is possible to zoom in and out of the map, alter the scale, calculate distances between points, and so on.

A selection of useful symbols are available as standard, such as churches, golf courses and youth hostels. If these aren't sufficient, it is also possible to create up to 12 user-defined symbols.

Mapmaker's obvious use is in creating



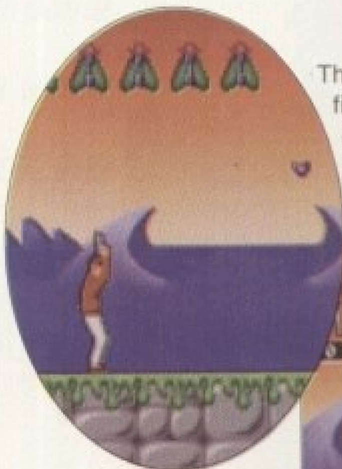
The user-friendly Mapmaker includes plenty of example files to demonstrate what can be achieved

maps for local societies, or for rambling routes or whatever. Having said this, it could potentially be used as a basic CAD package so that garden plans or house floorplans could be produced. With commercial alternatives often expensive, the £15 shareware fee seems quite

Evil Insects AGA

Programmed by: Matthijs Hollemans
Available from: A1200 Only PD
Disk No. 184 (70p + 50p P&P)

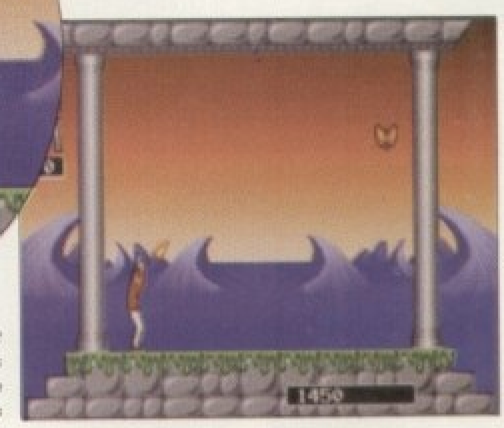
Smooth animation makes Evil Insects visually appealing



This is a polished shoot-'em-up which at first glance could be mistaken for any one of a multitude of Space Invaders clones. There's a subtle difference here though, in that you don't actually aim to hit the baddies directly. Instead, you direct the athletic hero's gun towards a stone ceiling above them. When the gun is fired, stone comes loose and falls, killing any Evil Insects which happen to be between them and the ground.

And that, in a nutshell, is the game. The graphics are decent enough and all the sprites move smoothly, but it is hard to see why this should be AGA-only since there's nothing especially stunning about the visuals – there appears to be only one backdrop.

It's not just the graphics which are pretty much the same throughout. To be honest, there is little variety in gameplay between levels. Against all the odds though, Evil Insects still manages to be entertaining for some time. It's strangely absorbing and addictive, despite the obvious lack of depth.



Innovative it may not be, but Evil Insects is a decent blast for a few minutes

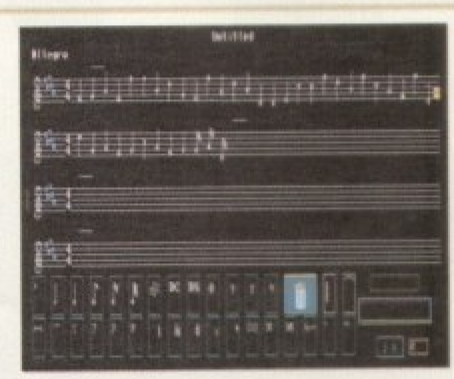
Amiga Music

Programmed by: Various
Available from: Roberta Smith DTP
Disk No. MUS104 (90p + 50p P&P)

This disk features an interesting collection of five programs with totally different purposes.

Composer is a score-based music composition program created in Amos. It does boast some decent features such as being able to handle ornaments and having a list of selectable speed and dynamics directions, but to be honest I can't see it appealing to many musicians. This is because, rather than making use of sound samples so that the output is tuneful and realistic, Composer opts for the internal sound chip output of the Amiga and the end result is that you'd think you were listening to a spectrum warbling away. It's a shame that such a potentially useful program is therefore rendered pointless.

DSound is an excellent little program which appeared on an *Amiga Computing* coverdisk a few months back. It resides in the C directory on your hard drive and is able to play samples of unlimited size direct from the



The user-friendly Composer would be worthwhile if it were capable of producing tuneful sounds

disk, using very little memory.

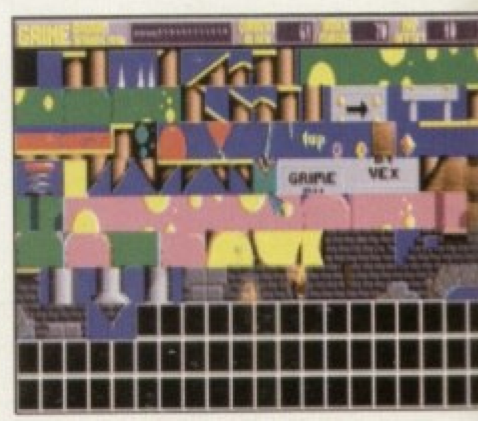
Also included is Hunter III. This is a sample-ripper, used to attempt to grab sound samples from programs and save them to disk. Superplay is a module player which, for me, is rather too reliant on its own bulky Superplay .lib file to outdo MultiPlayer. Finally, Inlaymaker is a useful if somewhat basic and restrictive cassette inlay designer which is an adequate substitute for those without access to a DTP program.

While this is hardly an essential collection of music utilities, DSound and Hunter III are worthwhile additions to any software library.

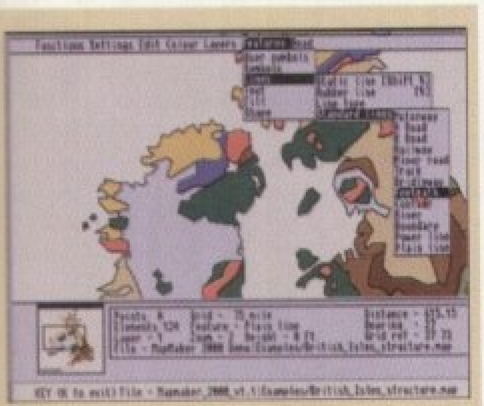
GRIME

Programmed by: Adrian Jenkins
Available from: Shoah PD
Disk No. U0001 (£1.50)

When programming multi-level games such as platformers, software writers tend to employ map editors to make their task easier. The process involves using an ordinary paint package to design blocks with which the landscape can be built up, then



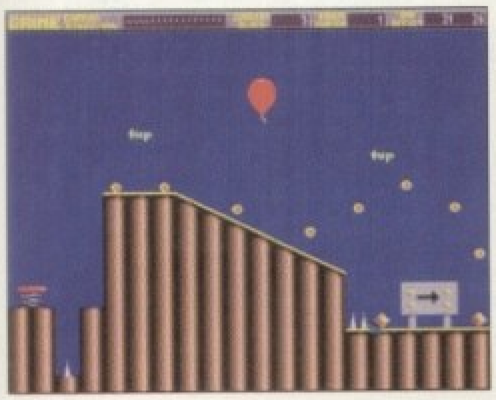
Load a screen of blocks into Grime...



Cascading menus are used as part of MapMaker's simple and effective interface

reasonable. Registering will buy you a version of Mapmaker which can save and print, since both these options are disabled in this otherwise fully-functional demo.

It's not without its small bugs, but this is a promising effort which could prove useful to a great many people.



...and then assemble them to form your very own platform game level. Now all that's needed is a fair dollop of programming ability

using the map editor to assemble these.

GRIME is an easy-to-use map editor, and although this demo version has a few functions disabled it nevertheless gives a good idea of exactly what to expect if you pay the £10 registration fee for the full version.

The interface is well thought out, meaning that getting to grips with operations is straightforward. Clicking the right mouse button brings up the individual blocks, one of which can then be selected with the left button. Press the right button again and the map screen appears. The selected block can then be placed as many times as required using the left button. Additionally, sections of the map can be cut and pasted making editing a fairly quick and painless exercise.

The full version of the program is capable of saving maps either in GRIME's own format or as raw data in words or bytes. Explanations of the file formats are given in the helpful documentation.

GRIME could be the answer to many programmers' prayers. It provides a simple and effective editor for maps which might previously have been cobbled together using hastily home-written editors with much less pleasant interfaces.

Fishy Fishy

Programmed by: Martyn Crabtree
Available from: Martyn Crabtree (£2)

I generally like original games, and they don't really come much more original than this. On top of that, I simply cod not miss out on such an obvious opportunity for a barrage of pathetic piscine puns.

Perhaps best described as an eat-'em-up, Fishy Fishy is a game in which your sole aim is to devour as many marine beasties as possible. It's only possible to eat things smaller than yourself, and since you're but a shrimp of a fish to begin with, that rules out practically everything except crabs. Consume a few of your fishy friends and you'll grow, enabling you to gobble more.

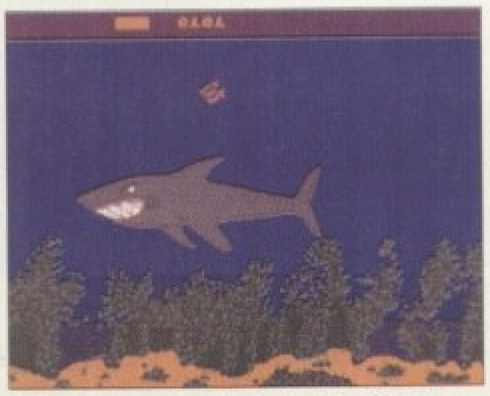


The most piscine-packed game ever, Fishy Fishy

It's not a good idea to stray into the path of anything bigger than yourself, as this causes your energy level to drop. When you've dolphinished stuffing yourself with everything edible in the immediate vicinity, you can progress to the next stage by biting the tail of the end-of-level shark.

Fishy Fishy is a nice idea, hallibut it's not perfect. At times, especially when you're still on the small side, trying to dodge larger marine life can be practically impossible because they move so fast. The sharks are annoying too, causing considerable loss of energy for your poor fishy when they turn instantaneously. Without wanting to carp on about such points, they do detract a little from the overall playability.

Nevertheless, for only two squid it's not at all bad and hopefully in the future we'll be herring more from Mr Crabtree.



It's the undersea equivalent of David and Goliath, as tiny goldfish takes on killer shark

Giddy 2

Programmed by: P Ruston
Available from: F1 Licenceware
Disk No. F1-056 (£3.99)



Colourful fun for all in unashamed Dizzy clone, Giddy 2

Among the greatest successes of those champions of the cheap commercial game, Codemasters, was the Dizzy series. Dizzy was an egg whose task it was to roam a cartoon landscape, overcoming obstacles by using objects collected along the way. So popular a character was he that the numerous games starring him shifted by the truckload.

"What's the relevance?" you may ask. The answer is that Giddy is an unashamed rip-off of the Dizzy games, in places boasting practically identical gameplay and some very similar graphics. The author admits to being rather heavily influenced by Dizzy, but this is certainly not a bad thing.

The puzzles all have logical solutions – for instance, you can get past the slug with the help of some salt. This makes for gameplay which is challenging but not frustrating, and as a consequence it is perfectly possible to become immersed in Giddy 2 for hours. This is a real gem which will appeal to gamesplayers both young and old. Were I not more restrained I might be tempted to say it's eggcellent.

Lay your hands on me

Online PD
1 The Cloisters, Halsall Lane, Formby, Liverpool L37 3PX
(Tel: 01704 834335)

Professional PD
28a Woodland Rise West, Sunway Park, Sheringham, Norfolk NR26 8PF
(Tel: 0263 824396)

F1 Licenceware
31 Wellington Road, Exeter, Devon EX2 9DU
(Tel: 0392 493580)

Roberta Smith DTP
190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE
(Tel: 081-455 1626)

A1200 Only PD
B J Cowdall, 23 Barn Way, Cirencester, Gloucestershire GL7 2LY

Shoah PD
38 Oxstalls Way, Longlevens, Gloucester GL12 9JQ
(Tel: 0452 382651)

KEW=II Software
PO Box 672, South Croydon, Surrey CR2 9YS
(Tel: 081-657 1617)

Martyn Crabtree
49 Marlowe Road, Herringthorpe, Rotherham, South Yorkshire S65 2JQ

Welcome to IntOS

Phil South greets the New Year with a smile and an Intuition interface for all flavours of Amos

IntOS stands for Intuition Operating System – a slightly grand title – which provides the AMOS programmer with exactly that, a method of creating system legal Intuition-based programs. IntOS was written for OTM by Matthew Warren, a name I've certainly seen around the Amos scene, possibly a PD coder for the Amos PD Library. Who knows? He's done a fine job, anyway.

While it is not actually the Intuition extension we would have wanted, it's the next best thing. It is built around a custom library called IntOS.CustLib which enables you to access the Intuition system directly.

Basically it is composed of a bunch of PROCs which call the custom library, which in turn gives you access to Intuition. This is good news in one way, and bad in another. The program doesn't take up any of the extension slots on the config program, but it does take a little time to work, and none of the commands I tried opened a window instantly in the same way as perhaps a C program would.

The system is installed by copying the library into your libs directory, and making a directory called "IntOS_Routines". These are in fact Amos programs which can be merged with your Amos code. In effect, your program runs as a subroutine of the IntOS routine.

COMPILING

You can delete functions which are not used in the program, which means you can sort of optimise the code before compilation. Compiling? Yes, as with all other Amos programs you can compile your code, so writing apps which look like machine code now looks even easier. As I said before, the speed isn't really there but hey, this is Amos, not machine code.

The system isn't perfect, especially as you are calling Intuition routines without checking the system first to see if what you are asking is currently legal – that is to say, if there is a window open already the program is unable to open a window. This is tricky, as you have to write a routine to check the state of the Workbench first. Oh, by the way, don't set Amos to close your Workbench when running Amos as this can also cause problems.

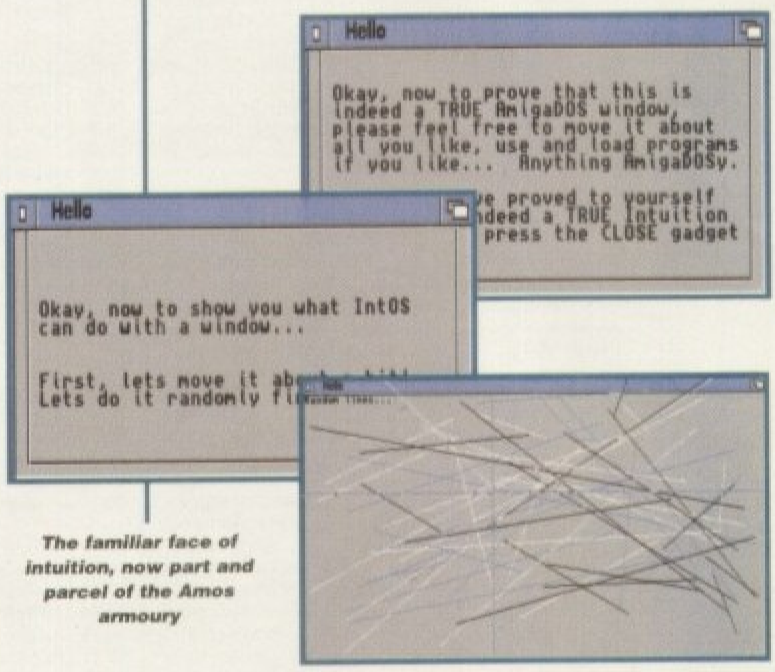
There are a lot of example programs in the excellent manual. For example, here is a simple "open a window" example:

```
Set Buffer 8
Break Off
Amos To Back
Gosub _INTOS_INIT
'
'
IN_WB_TO_SCREEN_[0]
IN_WINDOW_[0,160,12,320,188,$100E,"Hello",-1]
IN_RPRINT_["Amiga Computing is King of the Hill"]
IN_RPRINT_["and we've got IntOS, too!"]
IN_RPRINT_["       "]
IN_RPRINT_["Press Left Mouse Button (LMB)"]
IN_WAIT_RAT
'
'
_CLOSE_INTOS
Amos To Front
Edit
'------------------------------------------------
_INTOS_INIT:
Dim _INTOS_COMM(13)
Global _INTOS_MODE,_INTOS_LOCA,_INTOS_SEMA
Global _INTOS_COMM()
Repeat
_INIT_INTOS
Until Param=True
Return
'
'/*--IntOS System Procedure S--*/
'
Procedure _PEEK_S_[_INTOS0,_INTOS1]
Procedure _INTOS_SEMAPHOR
Procedure _INIT_INTOS
Procedure _CLOSE_INTOS
Procedure IN_TURBO_[_INTOS0$]
Procedure _INTOS_ERROR_REPORT
'
Procedure IN_WB_TO_SCREEN_[_INTOS0]
Procedure IN_WAIT_RAT
Procedure IN_RPRINT_[_INTOS0$]
Procedure
IN_WINDOW_[_INTOS0,_INTOS1,_INTOS2,_INTOS3,_INTOS4,
_INTOS5,_INTOS0$,_INTOS6]
```

I've deleted as many PROCs as I could, but it's a tricky business doing this in the Amos editor. The main IntOS program specifies that you must never break out of an Amos program while IntOS is running, as the program won't be able to find its way back to Amos.

This is common practice with Amos programs which use the Amiga system from within Amos, and it's something you're lumbered with to a certain extent. Once you're stuck in the program the only thing to do is reboot, so save any programs you're writing just in case.

Also, you have to be very careful about how you write your programs because syntax errors don't apply to PROC calls, like the IntOS routines, so if you typed in your program wrongly you can be assured it's going to crash.



The familiar face of intuition, now part and parcel of the Amos armoury

Perfect intuition?

Who'd have thought it? IntOS is a superb method of creating Intuition style programs which look like authentic OS legal Amiga programs. It's good that it is a series of PROCs, because if it was an extension it would be more difficult to install into a system which has all the usual Amos coders extensions.

Okay, so it takes its own sweet time to run, but I would guess this is because it is sending the info from the Amos routines to the custom library, which is then re-routing them to the Intuition library. A fair bit of translating going on, but it works so who can really complain. I think I've seen Intuition working better with proper extensions like Liberator, as the instructions are hard coded into Amos commands, but beggars can't be choosers. It's easier to use than Liberator, but it's less powerful. If you're a beginner, then this is your best route, but harder coders need the Liberator advantage.

The bottom line

Product: IntOS
Supplier: OTM 2000
Price: £29.95
Tel: 0827 312302

Ease of use	8
Implementation	7
Value for money	7
Overall	7

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B001	A-Gene (1 meg)	Trace your ancestors
B052	Business Card Maker	Simple, but useful
B098	Database Master	Comprehensive AMOS database
B134	Ami Cash	Best accounts package around
B136	Amibase Prof	Excellent database
B137	600 Business Letters	Pre-written script for business correspondence
B140	Text Engine	Excellent word processor
B152	PC Task	Emulates IBM + PC programs
B153	File-a-fax	As it sounds
B154	QED	Beginners word processor
B165	A-graph	Creates bar graphs
B175	Text plus VERSION 4	Excellent word processor
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E234	Colour The Alphabet	Educational spelling game
E271	The Highway Code	All you need to know
E272	Junior Maths	Education for Kids
E023	Electronic Train Set (1 meg)	Construct own train set
E043	Learn and Play 1	Good for the kids. Blackboard maths. etc.
E044	Learn & Play 2	More fun for the kids
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D313	Techno Warrior	More of the same
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A340	Depth Charge	Submarine game
A341	Earth Invader	The best space invader game
A350	Spitfire Assault	Shoot 'em up game

SIMULATIONS

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Sim102	Simulation 1 (1 meg)	Recommended. 5 games including Metro
Sim109	Wheel of Fortune	TV Quiz, computerized
Sim124	Napoleonic Warfare	High-quality simulation
Sim143	Card Shop	Well presented card games
Sim217	Act of War	Excellent strategy game
Sim218	Roulette	Casino Classic
Sim220	Sub Attack (N)	Also landmine + bomber
Sim224	Stratigic Games	3 excellent games
Sim302	Micro Market	Stock exchange game
Sim355	Automobiles	Overhead racing game

SPORT

Sp170	Amos Criket	'Owzat!
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Sp256	Slamball	Management game of US football.Type Sport
Sp299	Top Of The League	Addictive football management game
Sp303	Strike Ball	Amos written baseball type game
Sp307	18th Hole (2 disks)	Excellent golfing game
Sp325	Mister Men Olympics (2 disks)	Excellent game for disks as reviewed in Amiga Computing
Sp337	Super League Manager 2	Updated soccer management game
Sp352	Scottish Football Manager	Recommended

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U235	Sleepless Nights	Compilation of A1200 utilities
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D286	No point of sale	Stinning French demo
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D290	Raving Mad Me	High quality music video
D291	Lethal Exit	Stunning demo
D294	AGA Swimsuits (5 disks)	IFF 256 colour pictures use with DPaint etc
D300	Technotrack II	More rave music
D301	Retina	Excellent Vector film demo
D305	Utopia	A1200 slideshow
D310	Nigel Mansell	AGA slideshow
D311	Linda Lusardi (2 disks)	AGA slideshow
G321	AGA Klondike (3 disks)	Excellent patience card game
G322	Giger Tetris	Tetris clone
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Taking the high road

assembler language

Part 7

There's more assembler help on the way as Paul Overaa gets to grips with the important topic of system structure access

Over the last few issues, as the text file display example program was completed, it has become obvious that there is considerable interest in assembler coding within the Amiga community. Because of this, you'll be pleased to know that our monthly excursions into the world of 680x0 coding will, for the foreseeable future, be continuing.

What I want to do this month, having first recapped on what macros are for the benefit of any newcomers, is to explain how some special Amiga structure-style macros have been used to make life easier for the 680x0 coder.

Having done that, I'm going to compare the use of one of the 680x0's most useful addressing modes, register indirect addressing with displacement with its equivalent C code in order to provide a sort of 'informed overview' of Amiga structure access.

But to start with, back to the macros. These, as many of you will doubtless know, allow coders to assign symbolic names to 680x0 instruction sequences. When the name is encountered the assembler automatically expands it to produce the set of instructions provided in the main body of the macro. Motorola-style macro definitions start with a label followed by the MACRO keyword and end with the ENDM keyword, for example:

```
a_macro_name MACRO

ENDM
```

Parameter placeholders are specified using the backslash(\) character followed by a number. As an example, here's the definition of the library function calling macro that I've made extensive use of over the last few months:

```
LINKLIB MACRO
move.l      a6,-(a7)
move.l      \2,a6
jsr                     \1(a6)
move.l      (a7)+,a6
ENDM
```

When the macro is used the parameters you supply get inserted into the placeholder slots so if, for example, the macro was used in conjunction with this line of code:

```
LINKLIB _LVOGetMsg,_AbsExecBase
```

then the following sequence of instructions would be generated:

```
move.l          a6,-(a7)
move.l          _AbsExecBase,a6
jsr             _LVOGetMsg(a6)
move.l          (a7)+,a6
```

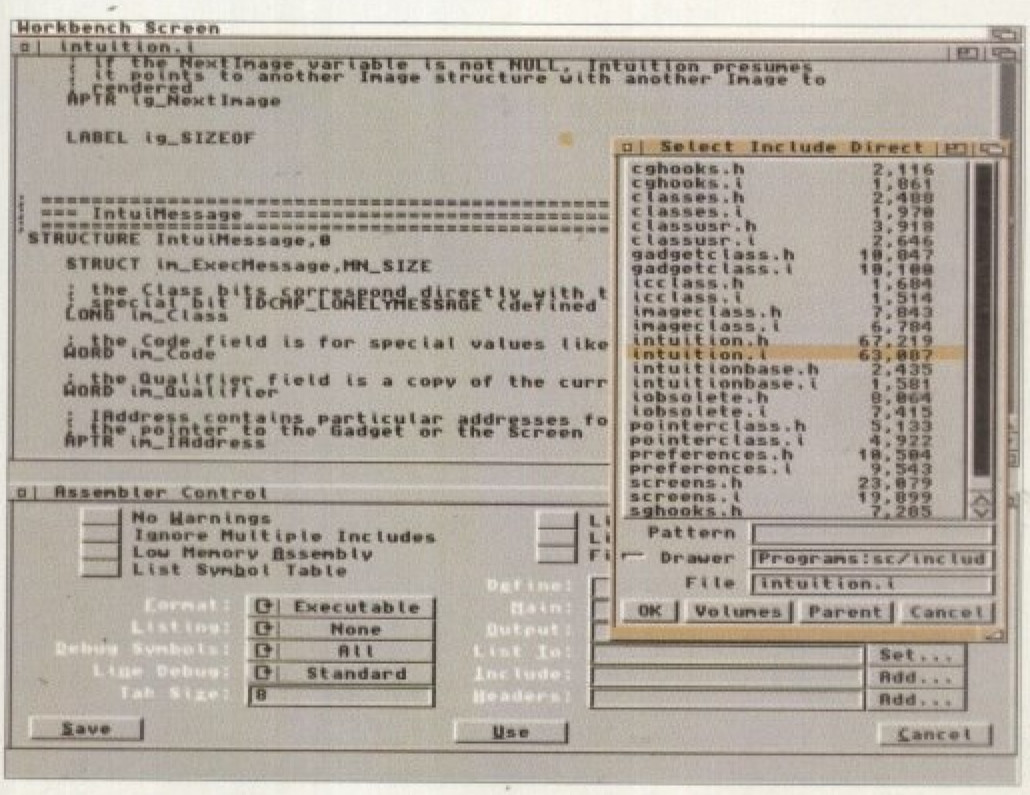
Those of you who have followed the development of the text file display program will know that I've been going a step further than this and using another macro, CALLSYS, which tags on the _LVO prefix to the function names. This has meant that I've been able to generate the above type of code using statements like:

```
CALLSYS GetMsg,_AbsExecBase
```

Incidentally, the reason I've not been combining these macros into a single unit that performed both tasks is that, since similar versions of both macros are already present in the official includes, I thought it best to maintain the same separation in my versions.

(I've been using my own variants of these macros for two reasons: Firstly, to ensure that definitions have been easily visible and secondly, so that users without the official includes were still able to assemble my code.)

A macro then resembles a subroutine because it provides a shorthand reference to a frequently used set of instructions. ➤



There's gold in them there includes – but you've got to know where to look for it!

There is, however, one very significant difference: The code for a subroutine will occur only once within a program, and will program execution branches to that single section of code as and when required.

Each time a macro is used though, the assembler will insert a copy of the appropriate instructions (along with any parameter-specified alterations).

One advantage of the macro is that it allows assembly language programming to be done at a much higher level than was previously possible!

Another is that, like a subroutine, it is usually possible to use a macro knowing only what it does, rather than how it does it. Nowhere is this more apparent than with the group of include file macros that have been designed to build system structure definitions.

The Amiga's operating system uses large numbers of structures (essentially just blocks of data in memory) chained together by pointers.

The C language is very good at handling these type of units because it has built-in structure access facilities which make direct use of structure templates defined in the '.h' header files.

The IntuiMessages used to carry information to and from Intuition window IDCMP ports are a typical example of an Amiga system structure and are based on an extended Exec message which, as a C definition, looks like this:

```
struct IntuiMessage  {
        struct      Message ExecMessage;
        ULONG       Class;
        UWORD       Code;
        UWORD       Qualifier;
        APTR        IAddress;
        WORD        MouseX, MouseY;
        ULONG       Seconds, Micros;
        struct Window          *IDCMPWindow;
        struct IntuiMessage    *SpecialLink;
};
```

If an assembly language coder counts the number of bytes present in each field, it is pretty obvious that they can not only produce a set of numbers which represent the positions of those fields, but could in fact use EQU directives to associate names with the numerical positions.

Given an address which represented the base of such a structure in memory, they would then be able to use those names to access individual field values almost as easily as the C programmer.

The good news at this point is that assembler coders never have to do this because such values are already defined within the '.i' include files. The macro used to build the structure definitions is called STRUCTURE and it's used in conjunction with a number of supporting macros, including ones which calculate the sizes of all the usual C variable types – BYTE, UBYTE, APTR, WORD, LONG and so on.

The bottom line is that each member of every Amiga system structure has been described within the '.i' includes, in terms of a name and an offset from a base address.

Here, for example, is the equivalent assembly language oriented IntuiMessage definition:

```
STRUCTURE IntuiMessage,0
          STRUCT im_ExecMessage,MN_SIZE
          LONG im_Class
          WORD im_Code
          WORD im_Qualifier
          APTR im_IAddress
          WORD im_MouseX
          WORD im_MouseY
          LONG im_Seconds
          LONG im_Micros
          APTR im_IDCMPWindow
          APTR im_SpecialLink
          LABEL  im_SIZEOF
```

and in this case the definition leads to the following set of named offsets being produced:

Offset	Field Name
48	im_SpecialLink
44	im_IDCMPWindow
40	im_Micros
36	im_Seconds
32	im_MouseY
30	im_MouseX
28	im_IAddress
24	im_Qualifier
22	im_Code
20	im_Class
0	im_ExecMessage

To be honest, it's not necessary to understand how the structure macro definitions work, but you do need to know how to use the offset values produced.

Indirect addressing

The reason that these structure offset definitions help, as far as indirect addressing with displacement is concerned, is that they let us specify displacement values in this very readable way:

```
move.l      im_Class(a1),d2
```

If, in the above example, a1 had been loaded with an IntuiMessage pointer, then the move instruction would retrieve data from the im_Class field of the IntuiMessage and copy it to register d2. We could just as easily have copied the data into memory, and moving data into locations labelled code and class, for example, could be done with these two instructions:

```
move.w      im_Code(a1),code
move.l      im_Class(a1),class
```

How do the operations just described compare with their C equivalents? Well, if 'message' was a pointer to the IntuiMessage structure, in C we would use the = and -> operators and write the assignment statements like this:

```
code = message->Code;
class = message->Class;
```

The following is a slightly more involved example based on the use of Wait(), GetMsg(), and ReplyMsg() to collect class, code and mouse co-ordinate information from an IntuiMessage as it arrives at a window's message port. Firstly, the C version:

```
Wait (bitmask);          /* wait for message */
message=GetMsg (port);   /* collect it */
class=message->Class;    /* copy required fields */
code=message->Code;
MouseX=message->MouseX;
MouseY=message->MouseY;
ReplyMsg(message);       /* and reply the message */
```

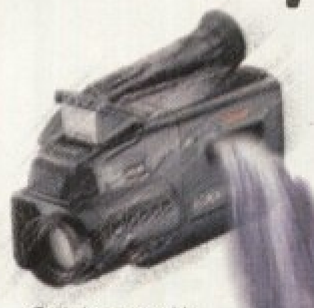
With assembler we use the same basic approach, but since Wait() needs a bitmask in d0,GetMsg() needs the port address in a0, and ReplyMsg() needs the message pointer in a1, we end up with the following 680x0 code:

```
move.l      bitmask,d0
CALLSYS     Wait,_AbsExecBase        wait for message
move.l      port,a0     port address
CALLSYS     GetMsg,_AbsExecBase      get message pointer
move.l      d0,a1       copy to address register a1
move.w      im_MouseX(a1),mouseX     copy required fields
move.w      im_MouseY(a1),mouseY
move.w      im_code(a1),code
move.l      im_Class(a1),class
CALLSYS     ReplyMsg,_AbsExecBase    and reply the message
```

Notice that because field names rather than numeric offsets have been used in the 680x0 code, there is in fact very little difference in readability between the C and assembler versions and readability is where the real strength of the named structure field approach lies.

The moral, of course, is that you should take full advantage of the standardised field names defined in the system include files because they will make your programs more understandable.

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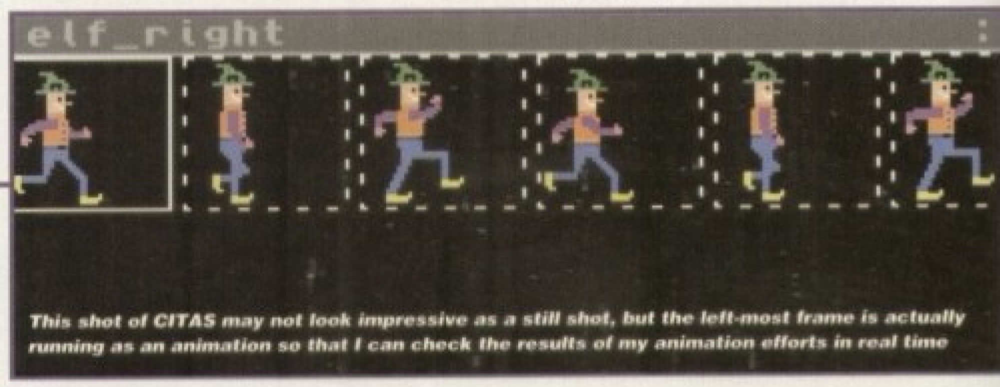
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Anyone for GameSmith?

Is this the package that many potential games coders have been waiting for? Find out as Paul Overaa reviews this new package from Oregon research



This shot of CITAS may not look impressive as a still shot, but the left-most frame is actually running as an animation so that I can check the results of my animation efforts in real time

If you are interested in C or assembly language Amiga coding then, before you read any more of your favourite mag, stop and ask yourself these three questions: Firstly, have you ever wanted to write a game that used fancy graphics and sound and knew that you'd be able to do just that – if only you had a little more high-level support from the standard Amiga run-time libraries?

Secondly, have you ever wanted to add just a few extra graphics/sound effects to utilities that you've written but been put off because you just weren't able to find the time to develop the necessary routines? Lastly, have you ever thought that your coding life would be easier and more productive if you could get direct access to a range of graphics and sound routines that you could use, as and when YOU see fit, in conjunction with your own C or assembler code?

If you have answered yes to one or more of these questions then the chances are you'll find Oregon Research's latest product, GameSmith, very interesting indeed.

It's a games development system that does a number of things. Firstly, it provides some very sophisticated graphics help via a utility called CITAS which eliminates a lot of the coding complexity you would otherwise be involved with when handling animations, collisions and so on.

Secondly, it allows you to use these CITAS-created objects to build your game using easy-to-use routines from a special GameSmith linker library. Finally, it provides a whole host of other routines for handling sound files, library opening, interrupts and so on, along with utilities for doing things like data file encryption.

Figure 1 gives an overview of the general GameSmith environment and it's worth pointing out at this stage that, although GameSmith offers full integration of the component system parts, many of the modules do in fact operate independently.

AMIGA BLUE CHIP AWARD

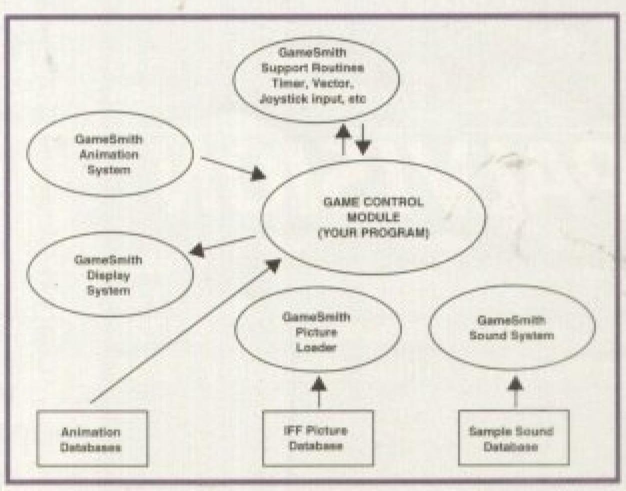
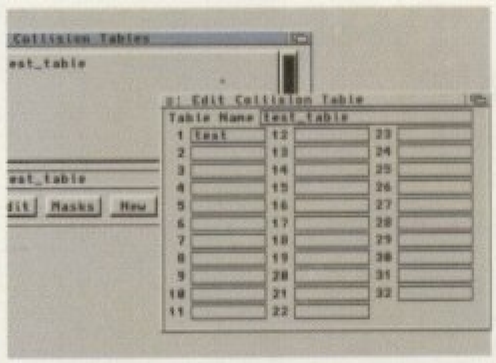
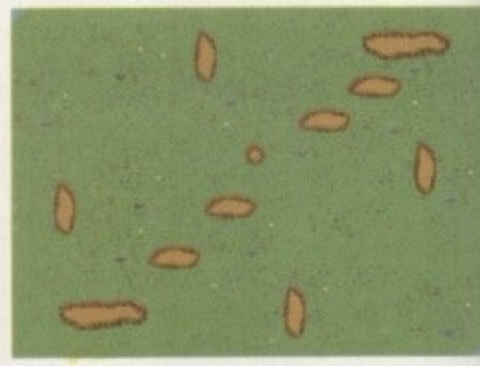


Figure 1: A component overview of the environment that GameSmith provides



Menu driven requesters allow you to set up collision tables for your animated graphics



Incorporating screen backgrounds just couldn't be easier

This means that you can include, or exclude, particular modules depending on which library function you choose, or do not choose, to make use of. In short, we're talking flexibility – GameSmith is a system which, to a very large extent, allows you to use as many (or as few) of its facilities as you require.

One problem facing any potential game developer is coming to terms with the technical issues, getting the graphics into the game, setting up animations and collision detections etc. This is where GameSmith's CITAS utility comes to the rescue because it lets you build up animation sequences by importing ILBM graphics brushes directly.

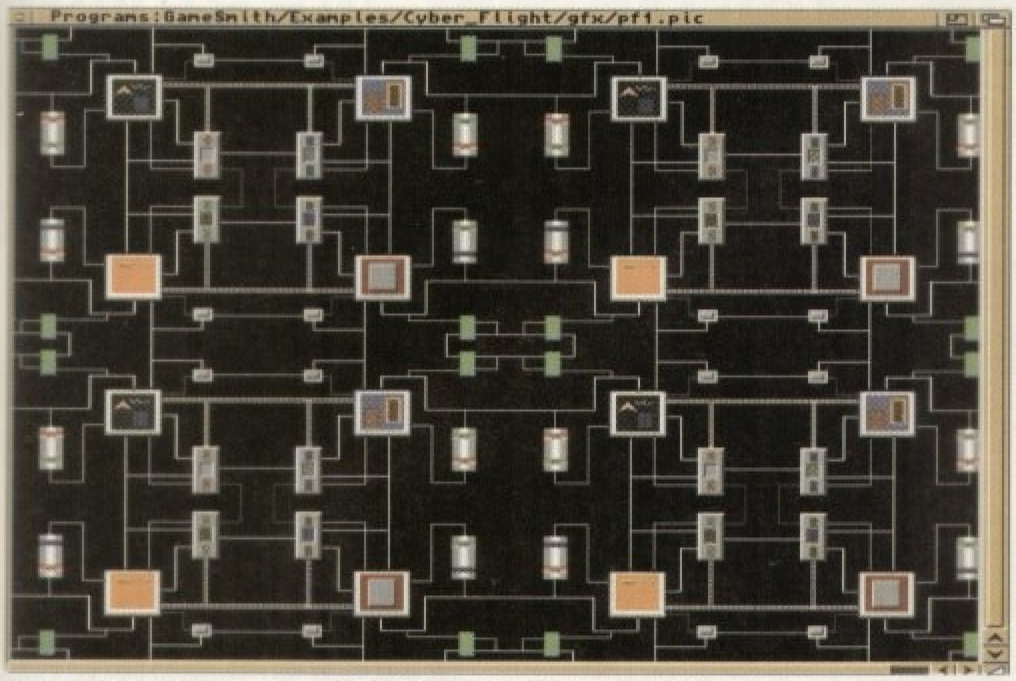
Better than that, you can run the animation sequence (and control the animation speed) while you are building it up. CITAS also allows you to specify the palette to be used – so you can bring the palette of one set of graphics into use on any other animation you are working on. As you bring in new images, CITAS adjusts the frame sizes to suit and you can rotate (only by 90 degrees though), flip, copy, delete etc. frames at any time. You can also set up object-to-object and object-to-background collision detection tables and build 'Complexes' which consist of linked sets of animation sequences.

Having created an animation using CITAS, it can be used in one of two ways: CITAS can write binary animation files that can be loaded into your programs with a single line of code. It can also generate the equivalent source code for you using either C or assembler.

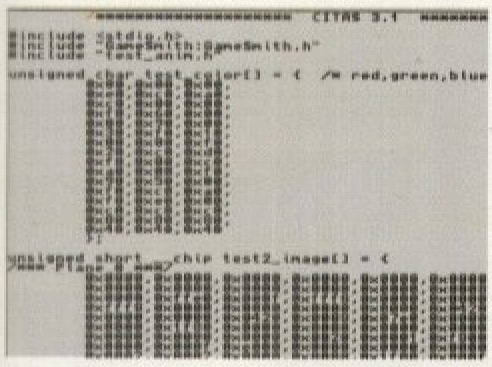
This second approach gives the programmer direct access not only to the special GameSmith structures that are used in many of the GameSmith library functions, but also to the raw bitplane data, colour tables, and so on. My personal view? The CITAS utility is an absolute joy to use and to say that I've been impressed with it is probably the understatement of the year!

It's worth mentioning at this point that GameSmith tends to use what are effectively 'super-high-level' graphics structures to define various entities. Literally all GameSmith graphics, however, revolve around the standard BitMap structure as defined in the Commodore Amiga header files, so you can plot points, blit images and animate complex objects just as easily within, say, an Intuition screen or window as you can in your own custom display.

Where GameSmith scores is that as well as allowing you to 'do your own thing' as it were, it also provides you with its own high-speed and sophisticated bitmap manipulation and display facilities. One potential offshoot of this is that non-games Amiga programmers, i.e. coders who are interested in writing utilities and so on, could well find that it would be worth investing in GameSmith just for



If you could see this super smooth scrolling you'd really be impressed



Using the direct code generation approach means that more advanced coders can keep a check on what GameSmith is doing



I've also found the CITAS facilities useful for general ILBM graphics data structure manipulation and code generation

adding some 'graphics sparkle' to their programs – e.g. perhaps the odd animation).

The GameSmith graphics display routines are also well worth a mention, as are double buffering, trivially easy background picture loading, blitter control, multiple viewports, and super-smooth scrolling, plus more advanced goodies like support for parallax viewports, sliced parallax viewports and so on.

The linker library includes a set of IFF sound routines that work GameSmith's interrupt driven sound system. Routines are provided for loading/unloading and playing 8SVX files, altering volumes/periods and so on. Surprisingly, tracker module player routines aren't included but the reason for this, as the manual points out, is that these routines are readily available from other sources.

The GameSmith library functions are provided in the form of a standard linker library that is linked with your controlling code in the normal fashion. The documentation is fairly extensive, with almost half the manual being devoted to library functions and their use – separate sections cover graphics, display, animation, sound, and the utility functions.

Each routine is described in what you might call standard Amiga autodoc form – in other words there is a C-style synopsis along with register usage, followed by a detailed description of the function purpose parameters and return values.

The docs are clear and examples of function use, and names of related routines, are also provided. Throughout the manual, examples are primarily in C and needless to say this means, right from the start, that you need to be C-literate in order to make sense of the material. AC

Utility functions

A range of extras are provided including CYDEC, a cypher-decipher utility which will doubtless be welcomed by professional coders because it allows them to encrypt graphics and sound files.

The GameSmith routines automatically recognise encrypted files and perform the necessary deciphering as the files are read in. CITAS, incidentally has the capability to produce 'locked' object files containing your unique serial number, which can only be loaded and used if the correct key is provided.

There's an AmigaDOS librarian that handles the opening and closing of run time libraries, joystick polling routines, vector creation (path plot) routines, random number generators, and a host of other goodies.

Anything else? Yes, you get versions of both the HiSoft Devpac 3 assembler and the Dice C compiler on the GameSmith release disks. Although you get all of the GameSmith specific include files, what you don't get at the moment are the official Commodore Amiga includes. This is due to licensing difficulties and as soon as the Commodore bankrupcy issues are sorted out, the Commodore includes will be provided – most potential GameSmith users will doubtless have these anyway.

Summing up

GameSmith will run on all Amigas and can handle AGA graphics, mode promotion and so on. If you haven't guessed already, I like GameSmith a lot and can see it being used not by just games coders but by many other Amiga coders.

Like all large development packages, GameSmith takes a while to learn about but the best way to do this is to spend a few hours reading the manual – so that you build up an overview of what GameSmith can do – and then get stuck in.

As you start using utilities like CITAS you'll find that the general philosphy of GameSmith soon falls into place. There is, incidentally, a lot of good tutorial material in the manual and it pays to work through the examples provided in detail – a good grasp of the main components in the system will go a long way to shortening the 'learning curve' for the package.

The only bad news as far as potential use is concerned is that GameSmith is not for the beginner. Whereas environments like EasyAMOS and the like do allow complete beginners to at least do something contructive using simple Basic-like statements, GameSmith does not.

In short, GameSmith is essentially a tool for coders that have some C or assembler experience, and in order to use it effectively you really need to be past the 'Hello World' C coding stage. It also helps in a general sense if you are familiar with the Amiga's technical system documentation (namely the RKM manuals).

You don't, however, need to have ever coded your own games, written user copper lists, built your own viewports or done any of the other things that advanced graphics coders get involved with – although again it probably helps to have a general appreciation of the issues.

GameSmith is brilliant and it's no exaggeration to say that it could make your coding 500 per cent more productive. It's not difficult to use but do remember however that you must be C or assembler literate in order to take advantage of the facilities on offer!

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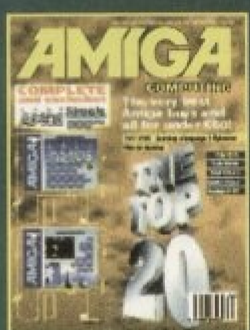
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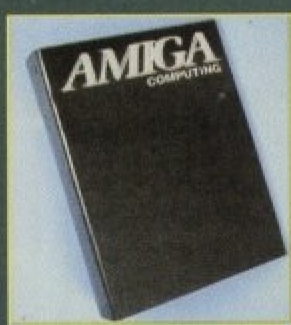
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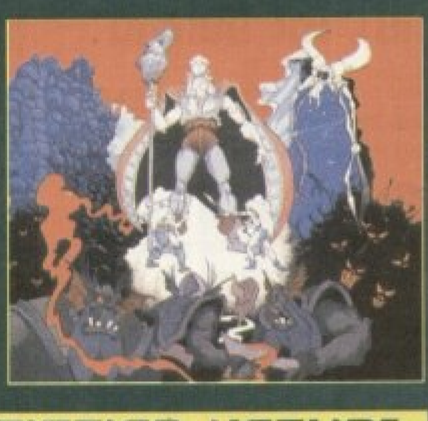






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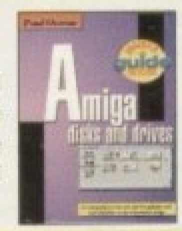
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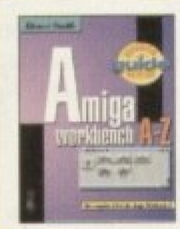
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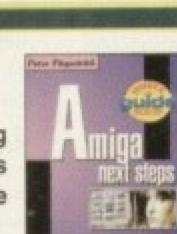
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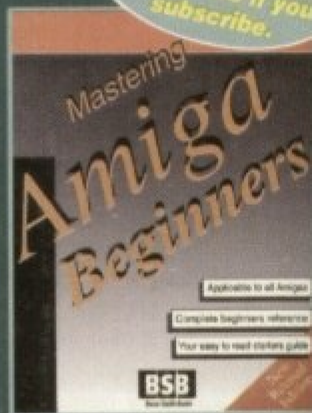
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Zool 2 is suitable for any machine, though A1200 owners can choose an enhanced version (see order form).

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Refining the art

In the field of Amiga 2D art packages, Personal Paint was always that bit cheaper than its rivals. Gareth Lofthouse assesses the latest improvements to see if v6.1 can offer even more for your money

When *Amiga Computing* reviewed Personal Paint 6.0 it had the misfortune of going head-to-head against Brilliance 2, an art package of unrivalled flexibility. Nevertheless, PP picked up a few points here and there and was admired for its good value.

Now the maker, Cloanto, is back with the latest update, v6.1, and though it would admit this is not a thorough overhaul of the system, a number of improvements are worthy of mention.

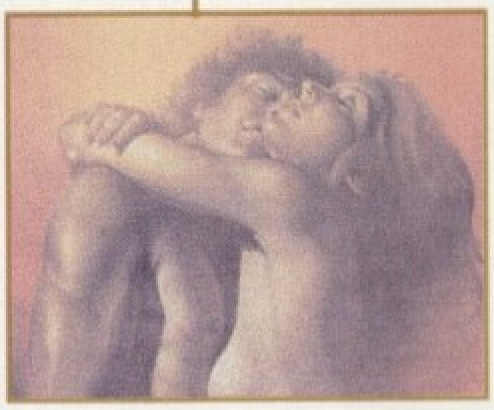
Immediately noticeable is the new packaging. An excellent manual is supplied within a ring binder, making for more convenience when looking up a topic or query. This may not sound that important, but since software like this is likely to be used year after year, durable documentation is vital.

To move onto the program itself, Cloanto has improved slightly on the look of the interface, adding more professionalism and consistency. Even the novice should be able to get the hang of it reasonably quickly.

A more important boost to the system, however, is its increased speed. Though we were impressed by 6.0's image processing capabilities, the whole process was painstakingly slow even on accelerated Amigas. Now, thankfully, the program has been accelerated by up to 500 per cent in some places.

The animation functions have received a tweaking so that they can now support ANIM 8 and hybrid animation formats, making for more flexibility in this area.

It also allows the user to compress animations, dramatically reducing their size, and there is a frame by frame timing function.



Just one example of the printing quality possible. This was produced on an HP Deskjet 550C

Despite these valuable options, however, it has to be said that Personal Paint still lags behind both Brilliance and D Paint in terms of animation.

COMPLIMENTARY

On the other hand, these new features compliment a package that already had some useful advantages. For example, it's possible to create multi-palette animations which can be viewed externally using a PD program like ViewTek. The virtual memory option is also handy, allowing inactive image data to be stored for later retrieval. When a memory shortage occurs, Personal Paint cleans up the virtual memory, storing less used material on disk.



Great artworks are possible – I knocked this up in a few minutes – not!

New depths

Recently, Stereograms, the patterned pictures that contain hidden 3D images, have started a craze that involves lots of people squinting in frustration at the wall. It's not surprising, therefore, that demand is high for software that allows you to create your own sterographic image.

A stereogram is a picture containing different information for the left and right eye. When a person looks at it normally they will not be able to see the hidden clues that make the image.

However, when each eye looks at a different part of the picture a pattern will emerge. Acting on eye convergence and divergence, the dfferences in patterns provide the brain with depth information that gives us the 3D effect

Personal Paint now includes a facility allowing you to create your own Stereograms, an impressive addition since standalone 3D image creators like StereoCad cost £30. At the very least, this feature bundles an enjoyable novelty into what was already a good value package.

Still trailing, but not far behind

As has been stated, 6.1 is a refinement on version 6 rather than a complete modification. Because of this fact, certain shortcomings still remain when it comes to comparing Personal Paint to D Paint 4 or Brilliance 2.

It's good to see, however, that the program's speed in some areas has been dramatically improved thanks to faster machine code. What's more, the addition of the Sterogram creator is very welcome at this price. Troublesome times though these are for the Amiga, products like this show how blessed it is when it comes to getting powerful software for bargain prices.

As usual when it comes to buying decisions, it's horses for courses. We generally feel that Brilliance 2 holds the crown for art packages, but that's not to say there aren't some people who would find Personal Paint more useful. One thing's for sure, with this version retailing at £10 less than its previous incarnation, Cloanto's art package is well worth a look.

SYSTEM ESSENTIALS

RED = Essential BLACK = Recommended

RAM	Chip RAM
1 Mb	4 Mb

The bottom line

Product: Personal Paint v6.1
Price: £59.95
Supplier: Ramiga International
Tel. 0690 770304

Ease of use	7
Implementation	8
Value for money	9
Overall	8

Flight of fantasy?



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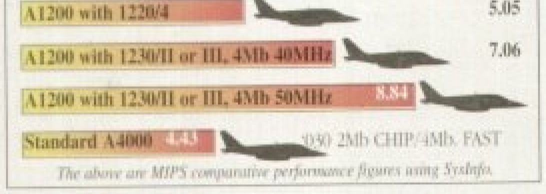
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1046 GAS TURBINE ENGINE tutorial & anim. graphics
1047 STERLING ENGINE tutorial & anim. graphics
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1056 WORM HOLE simple game ideal for children
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1061 KING JAMES BIBLE (4D) complete bibles, excel.
1066 TARROT clairvoyance in an instant
1068 GALLOW fancy a game of hangman?
1070 MATH DRILLS teaches all basic maths skills. Vgood
1071 ERROR INFO gives info why your Amiga crashes
1073 PICTURE & LETTER learn to read - first steps
1074 AMIGA BEGINNER'S GUIDE tutorial on Amigas
1075 WORLD WAR 2 graphics tutorial on WORLD WAR

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1076 SCIENCE an excellent collection of science related programs e.g. simulate Starprobe/molecule/etc. Ideal for all interested in or studying science. Recommended. This pack comes on 4 disks

1080 KIDPIX great children's paint program

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2146 C-MANUAL 2 (4) Teaches you how to program in C
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2324 GRAPHIC Util 2 (3) even more graphic tools
2335 FREE COPY can even copy commercial games
2336 OPTICOMMS II for use with modem
2343 LITTLE OFFICE - databases/wordprocessor/spread
2350 POOL TOOL - predict horse races with best chance
2351 RACE RATER similar to above, buy both
2352 DESKTOP VIDEO 1 & 2 (best video titler tool)
2356 TEXT ENGINE V3.4 full feature wordprocessor
2359 SEEKER find lost files on floppy & hard drive
2361 ADVENTURE GAME CREATOR (2)
2363 DISK REPAIR KIT- salvage & repair damaged disks
2370 CAPTION MACHINE + MORE. Brillant Video titler
2377 NCOMM III more modem software + packer utils
2380 UNICOPY fantastic disk copier
2383 LYAPVNOU GENERATOR - generate space scenery
2384 MED V3.2 (latest) Brill music maker
2385 LORAN NOTE BOOK. database & world map.
2390 DATA BASE CPILATION - the best available
2401 PLUS ISSUE (not WB1.3) Vol 1-14 each disk packed with various WB2 & WB3 utilities. Recommended
2427 PRINTER-STUDIO excellent print results
2431 VIDEO APPLICATION (2 DISKS) many video titler progS
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3390 TETREN most polished Tetris ever released
3392 STRIKEBALL brilliant baseball clone
3400 FIGHTING WARRIOR like Street Fighter
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3406 TOTAL WARS -strategy like Chess in Space
4309 WOT'S ITS NAME QUIZ - quiz (ok, it's good)
3410 FATAL MISSION Excellent Nemesis clone
3411 BATTLE CAR 2 3D car racing
3420 ALL ROUNDER CRICKET
3421 ROTON very nice, Asteriod
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3425 BALDY GAME escape before time runs out
3427 RESCUE 20 levels cavern scramble clone
3429 ESCAPE V2 great exploring game
3430 SOCCER CARD football manager
3431 NESTER CARD GAME- hours of fun for a quid
3433 MASH THE POTATO guess. Easy
3435 ROULETTE American roulette, excellent
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3438 TRAILBLAZER (2 player version) Even better
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3446 OBLIDOX excellent Arcade/Puzzle game
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3460 WIBBLE WORLD GIDDY Large platform game
3462 COSMIC RACE motorbike with gun
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3464 GAMES COMPILATION 6 brillant new games
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3480 BATTLE OF BRITAN 2 player strategy game
3488 EXTREME VIOLENCE 2 player battle out
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3490 MEGA BALL 2 very playable breakout
3491 BOUNCE & BLAST brillant platform, 10/10
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3519 LABYRINTH II Good text adventure
3520 FATAL MISSION 2 Superb fast action
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3525 GRAND PRIX MANAGER 93 strategy game
3528 MICRO MARKET Very good stockmarket game
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3567 STARBASE 13 (2D) Brill like MONKEY ISLAND
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3659 MR MEN OLYMPICS (2D) many events to complete
3660 4 L.C.D. DREAM 4 small hand-held games
3661 POP QUIZ - multiple choice answers
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3664 NEIGHBOUR GAMES (2D) Brillant graphics
3665 TIME RUNNER (WB 2/3) Brillant graphics
3667 GOLF (2 DISKS) One of the first PD Golf Games
3668 AMOS CRICKET 2 New Amos cricket simulator
3669 MUGSY REVENGE gangster graphic adventure
3670 ESCAPE FROM DOOM anim graphic adventure
3672 JIGSAW (2 DISKS) very playable jigsaw games
3673 BOBBY GARDEN + DIGGER (NEW) Brillant
3674 HIGH OCTANE (NEW FASTER) (not WB1.3)
3675 TIME RUNNER 3 like Flashback (not WB1.3)

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THE LATEST C64 emulator V3, this pack also comes with loads of C64 Utilities & a brilliant selection of top C64 Games. Must for any Amiga owner, loading instructions included, amazing value at

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ANIMATION

4013 SPACE-PROBE in search of ALIEN life
4072 LIFE'S A BITCH (18+ only)
4073 IT'S MENTAL III (rude jokes 18+ only)
4106 SPACE ANIMATION Brill x-wing anim
4138 KYLIE (2 disks) pics & songs
4179 THE LIVING WORLD SLIDE SHOW creepy-crawly
4215 MADONNA III Brilliant Madonna pics
4231 ALIENS II the best Aliens
4246 GARLOWEEN A NIGHTMARE ON 13 STREET
4248 PERVERSE SLIDES Very funny, but rude, pictures
4293 MANGA COMIC stunning Japanese chic etc
4320 GORE very scary, not for the faint-hearted
4414 MANGA WORLD III latest in SUNTEAM products

2330 WB 2.0 EMULATOR

this disk will allow your A500 (1.3) to emulate the A500 Plus thus letting you run most A500 plus software without having to buy the rom kit

18 DEMOS

note all this selection is for age 18 and over only

SHOWER GIRL
BODY TALK
MARIE WHITTAKER
SABRINA SPECIAL
DIE FILKINGER
MADONNA EARLY DAYS
KATHY LLOYD
MEGA-MAID
CALENDAR GIRL
MAY FAIR
UTOPIA (4 DISKS)
GIRLS OF SPORT
PAGE 3
GON GON GIRL
TINA SMALL

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A1200/A4000

AGA001 EXTENSION DEMO with fast landscape No 1 anim and a rotating city, still regarded as the best AGA demo
AGA002 FRACTAL GENERATOR fractal in 256 colours
AGA003 WORKBENCH HACK many hack/toy/blanker etc
AGA006 NEW SUPER KILLER know & kill over 316 types of virus. Must for all A1200 owners
AGA007 MINDWARP the very first demo for the A1200
AGA008 KLONDIKE DELUXE AGA (3D) Simply the best card games with glamorous ladies as card face. 18 + only
AGA011 SLEEPLESS NIGHT 3
AGA012 PLANET GROOVE Truly A1200. Demos
AGA013 MOTOR INVADER 2 (2D) Very playable INVADER set inside your computer. Loads of fun
AGA015 POINT OF SCALE Great A1200 only demos
AGA016 CHROMAS Fairly good demo.
AGA017 WORLD OF MANGA AGA (4D) Brilliant Japanese comic slideshow. Includes Japanese Chick etc, recommended, still the best seller on the A1200 - brilliant
AGA021 MAGIC WORKBENCH improve your WB & add some functions to your WB. Really BRILLANT
AGA022 WB 3 UTILITIES loads of WB 3 only utilities like degrader etc. Not for beginners
AGA023 U-CHESS the best chess program game so far, but requires 4 megbytes. Brilliant graphics
AGA024 WORKBENCH 3 SCREEN Great backdrop for A1200 (not beginners)
GIF BEAUTIES is one of the highest quality girl pictures available(1-10)
AGA41 GIF BEAUTIES (1-10) This Bodyshop collection contains stunning pictures of raunchy women who don't seem to be wearing many clothes
AGA62 BODYSHOP 1 More of above
AGA64 BODYSHOP 2 (2D) More of above
AGA66 BODYSHOP 3 More of above
AGA68 BODYSHOP 4 (2D) More of above
AGA70 BODYSHOP 5 (2D) More of above
AGA72 BODYSHOP 6 (2D) More of above
AGA74 BODYSHOP 7 (2D) More of above
AGA80 FITCHICK 1 See BODY SHOP for description
AGA82 FITCHICK 2 (2D) See AGA41 for description
AGA84 FITCHICK 3 (2D) See AGA41 for description
AGA90 ASSASSIN A1200 FIX DISK 1 - Brillant collection of degraders that should get most of the old A500 games/software to run on the A1200. A must for any A500 owners, just upgrade to an A1200. Recommended
AGA091 ASSASSIN A1200 FIX DISK 2 (new) like above but with new collection (different) degrader. Recommend you buy both disks - super
AGA094 RELOCKIT V1.4 latest. Run A500 SOFTWARE
AGA097 A1200 UTIL - AGA TESTER, SYSINFO etc
AGA099 MADFIGHTER 2 brillant Streetfighter clone
AGA100 AGA BLITZ SCREEN BLANKER
AGA101 FAST GIFF 2 display GIFF pics in Workbench
AGA102 AGA DIAGNOSTIC - NEW system tester
AGA103 BLACKBOARD AGA decent image processor
AGA104 REND 24 Similar to above
AGA105 QUICK GRAB AGA -can grab AGA screen
AGA110 WORLD BEYOND 1 (3) stunning 256 COLOUR fantasy art. Leaves Atari users breathless
AGA114 SMELL LIKE CHANEL No. 5 brillant demo
AGA121 MAGIC FACTORY 1 STAR TREK (6 disks) Best ray trace pictures ever released on the A1200
AGA133 AGA UTIL v1 AGA util compilations
AGA134 AGA UTIL v2 more AGA util compilations
AGA135 AGA UTIL V3 more of above
AGA136 AGA UTIL V4 even more of above
AGA137 IMAGE PROCESSOR IFF picture processor
AGA138 MULTIBOOT 4 various versions A500 EMU
AGA139 WB3 HARD DISK PREP & INSTALLER installing WB 3/prefs/etc the hard disk
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IMAGINE OBJECTS	1-20
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NEW TITLES

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2902 SNOOP DOS V3 - will tell you why some programs refuse to work - a must utility for all Amigas
EXTRA SPECTRUM GAMES VOL 1-20 NOW AVAILABLE
AGA141 FERRARI ART 2 (2D) load of Ferrari & ray trace
AGA142 SUPER LEAGUE 3 latest manager games
AGA144 SPEAK & SPELL educational software for kids
AGA145 BIG TOPS (18 + only) Hmmm
AGA146 KELOG LAND brilliant platform game, get - a must
AGA150 ACTION REPLAY V5 - NEW UPDATE TO V4
AGA160 GIGER TRIZ very playable 256 colour Tetris
AGA162 FATAL BLOW new STREET-FIGHTER 2 clone
AGA164 CINDY CRAWFORD Vol. 1 (2 disks) latest release
AGA166 INFESTATION (2 disks) The ultimate AGA demo
AGA169 AGA SPECTRUM V1.3 special AGA version brill
AGA170 CINDY CRAWFORD Vol. II (2 disks) amazing
AGA172 VIDEO TRACKER AGA - ultimate demo maker
AGA174 MAGIC WB EXTRA vol. 1 & 2 (2 disks)
AGA180 GIF BEAUTIES Vol. (11-18) 8 more girlie disks
AGA188 FRIDAY AT 8 - another brilliant AGA demo
AGA190 ASSASSIN MULTIVISION AGA pic viewing util.
AGA192 ALIEN FRENZE 2 player blasting + power up
AGA194 BIG TIME SENSUAL (3 disks) SPACEBALL 2
AGA200 MASQUERADE 1 disk brilliant puzzle game
AGA202 RAM JAM 94 it can't be done (2 disks)
AGA203 EXPLICIT 2 DEMO new effects well done
AGA204 COMPLEX DREAM 2 disks requires 2 disk drives
AGA206 TREASURE OF TUTANKHAMUN - educational tool
AGA210 CHANEL 2 DISK MAG (2D) A1200 disk magazine
AGA220 KLONDIKE NEW CARD SET - (7 disks)
AGA230 LOVE 2 disks - simply brilliant
AGA231 AGA UTIL 7 & 8 (2 disks) more utils.
AGA234 KNOTTY - Stunning AGA sliding picture puzzles
1150 INTERNAT - Full guide to internet & superhighway
1161 CLI & SHELL TUTOR (help) ideal for beginner
1162 DELUXE PAINT GRAPHIC TUTOR V3 & 4 Recommended
1163 JAPANESE - teaches you the Japanese language
1166 KEYBOARD TRAINER An excellent typing tutor
1167 WORD POWER - spell/check/crossword solver/teach
1163 CROSSWORD CREATOR - design crosswords
1165 CHESS II & TUTOR brilliant Chess II games
1166 PAINT IT (not A500 1.3) latest COLOURING BOOK
1168 HISTORY OF AVIATION Vol 1 Excellent disk
1171 CHILD FAVOURITE
1175 FRANTIC GUIDE TO COMPUTERS (2D) brilliant & funny
1177 CYBER PUNK 2 for Cyber Punk freaks only
1181 SIGNATURE CREATOR customise your own signature
1182 VIRUS WORKSHOP V4 comprehensive guide
1178 MAJOR LEAGUE
G880 SPACE INVASION 2 - Fantastic Galaxian clone
G881 AUTOMOBILES - PD version of SKID MARK brill
G882 BANDIT MANIA - Brilliant fruit machine demo
3732 OTHELL IN SPACE massive exploring, re-shoot game
3735 OVERLANDER Brilliant arcade MOON ALERT clone
3737 SERIOUS BACKGAMMON The best backgammon ever
3772 UN-SENSIBLE SOCCER Amazing, a true Gem. This is the most, if not the best PD SOCCER game. Brilliant
3782 SOLO ASSAULT 3D like Wing Commander on the NES
3786 THE GREAT GOLD RAID - simple but extremely addictive
3784 NANO FLY Superb exploration type game. Recommended
3787 ANT WAR V1.9 (Latest) not 1.3
3790 GREEN FIVE Amazing graphics just like Flashback
3771 STAR WORD (2 Disks) Brilliant Thrust clone
3774 TRICKLE TREAT - this is DOOM II on the Amiga
3790 TASK FORCE very good MIND SHADOW clone
3791 PROFESSIONAL BINGO CALLER
3792 MARTIAL SPIRIT brilliant STREET FIGHTER II
3802 BOULDER DASH COLLECTION 1-6 brilliant (5)
3851 NUMBER TRIZ (WB 2/3) like Tetris with numbers
2790 WINDOW BENCH V2 (WB 2/3) 2 disk replacement
2793 STAR PRINTER STUDIO
2800 PRINT A CARD + many Christmas cards
2832 DIVIDEND WINNER Brilliant pool predictor
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2880 D.M.S. V2.03 (not WB1.3) update to V2.20
2881 SONIC DRUM V2 drum sound with no hardware
2882 DISK COPY Collection of 10 disk copies
2887 DISK REPAIR KIT floppy and HD disk utils
2890 RANDOM DOT STEREOGRAM generator not 1.3
3007a CINDY CRAWFORD - (2 disks) the best glamour yet
2782 CHEAT V3 - contains 1000+ games cheats & solutions
4415 HAVE A LAUGH - 64 humorous seaside postcards
2781 ACCOUNT MASTER - Brilliant accounts program
1148 CHESS & TUTOR - Teaches you how to play chess
1142 KID DISK 5 & 6 - 2 disks full of brilliant games and education programs with large anim & graphics 10/10
M075 KYLIE MINOGUE (2D) full song 'MADE IN HEAVEN'
X075 MADONNA SEX (3 disks) 18+ only
X074 ADULT JOKES (18+ ONLY) Hmmm

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all packs above contain 5 disks (x99p)=£4.95 per pack

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5 of the very best in education & education programs recommended. Will keep any kid quiet for a long time.

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This is one of the best sellers you get demo/anim./games etc. all based on the JAPANESE story ... recommended

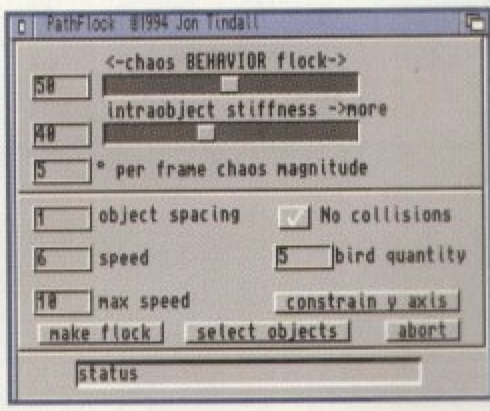
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100 TOPS DEMO

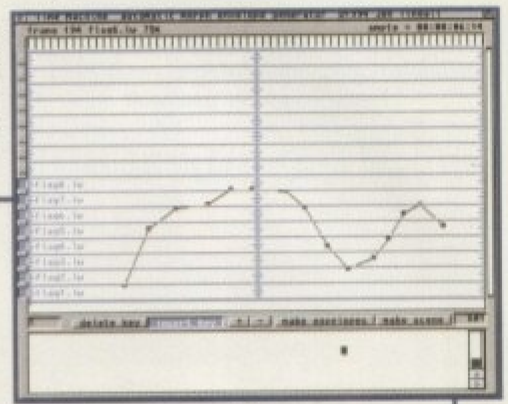
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DESTINED TO BE NO. 1 SELLER

Animating with LightWave is made easier than most other progams by an elegant, easy-to-use interface, but there's still plenty of room for improvement. Utilities such as Dynamic Motion Module can add the effects of gravity, wind, and elasticity, but what if you just want an object to point at another one, or you need to create a convincing shoal of fish?

Motion Master is a two-volume set of disks, each offering four new animation tools. Volume I contains Time Machine, Extract Audio, Pathflock and Mouse Recorder, while



Pathflock's interface may be fairly simple, but the parameters on offer make a huge variety of flocking or herding movements available



Time Machine offers a 16-object morphing screen with timeline and easy drag 'n drop editing of keyframes to save animators a lot of bother

Birds of a feather

Stevie Kennedy bumps and gyrates with Motion Master, the latest range of LightWave animation tools to flock their way across the Atlantic

Volume II packs in the Child2World, Wobbler, Point At, and Volume Cube tools. Making use of LightWave's powerful ARexx commands and consistently simple interfaces, the tools are designed for beginners and experts alike and all run on Workbench at the same time as LightWave.

They are all fairly useful at least, but some, such as the Extract Audio feature aimed primarily at syncing sampled speech to a 3D mouth, will only be attractive to high-end users. Others, the Point At, Pathflock, and Wobbler utilities in particular, offer much more powerful general features.

Point At, for example, works by automatically generating a motion path for one object so that it will point at (or 'track') another object, no matter where the target goes during a scene. It is ideal for making computerised heads follow a tennis match or a gun track its target, but can be tricky to set up.

POINTING PROBLEM

When a scene is created and the motion path for a target object is set, this path and any motion path for the gun (or tracking object) is saved out. When these are loaded into Point At, the program generates a new motion path which the user can load in LightWave and assign to the gun.

However, when I've tried this utility on several occasions, the gun itself was successfully tracked to a target, but 180 degrees out so that the wrong end of the gun was doing the pointing. In addition, the XYZ scale of the object was set to zero, forcing me to shift all keys to the correct sizes. The 180 degree problem is impossible to fix if the target object moved in the Y plane, because this motion is also reversed and a gun will point downwards instead of upwards.

It took several attempts to create a scene which worked well enough that the re-sizing hassle didn't make the exercise pointless, and a fuzzy, under-written manual didn't help.

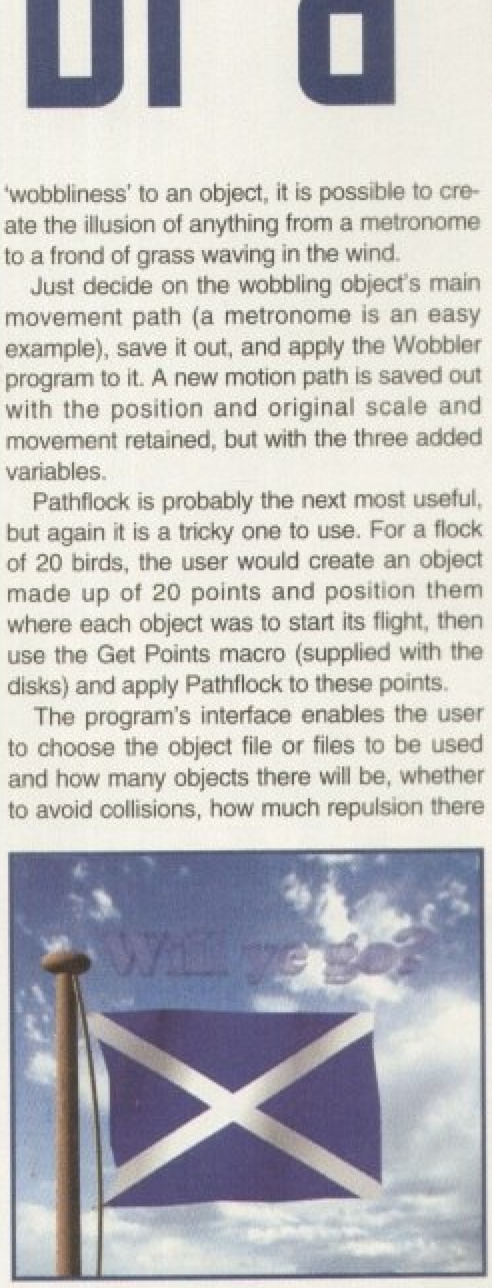
Wobbler is much more reliable and probably more useful. By enabling the user to add variable spring damping, restoring force, and 'wobbliness' to an object, it is possible to create the illusion of anything from a metronome to a frond of grass waving in the wind.

Just decide on the wobbling object's main movement path (a metronome is an easy example), save it out, and apply the Wobbler program to it. A new motion path is saved out with the position and original scale and movement retained, but with the three added variables.

Pathflock is probably the next most useful, but again it is a tricky one to use. For a flock of 20 birds, the user would create an object made up of 20 points and position them where each object was to start its flight, then use the Get Points macro (supplied with the disks) and apply Pathflock to these points.

The program's interface enables the user to choose the object file or files to be used and how many objects there will be, whether to avoid collisions, how much repulsion there is between each of the objects in the flock, and their speed and spacing. Displacement maps can also be loaded if the animator needs to make birds flap their wings or fish wriggle, and the Y axis can be locked out to simulate a herd moving on a flat plane.

The problem is that all objects will move towards the same target, which means they start well spread out and then converge towards the common target. Only collision detection and the user-defined spacing or repulsion keeps them apart, and it can take an awful long time to set up a flock with just the right parameters.



With a few bones added, this flagpole can be made to twang around in the wind at the same time as the flag, a simple effect which does a lot to boost realism

What about the rest?

Of the other programs in the series, Child2World is handy for separating an object out of a parent and into another scene without losing its positioning or other variables, Volume Cube is good at creating a space in which objects can bounce around randomly, Time Machine offers an excellent graphical interface to control morphing between up to 16 objects, and Mouse Recorder can produce real-time generated motion paths.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

2.1 Kickstart

LightWave 3.1

The bottom line

Product: Motion Master
Price: £119.95
Supplier: Premier Vision
Phone: 071-721 7050

Ease of use	**7**
Implementation	**8**
Value for money	**8**
Overall	**7**

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UTILITIES

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U002 +AMIGA SYSTEM TESTER C.I.I. base tester
U088 LABEL DESIGNER Good labels designer
U101 DATA BASE WORKSHOP (2 disks) Database compilation
U144 AMIGA FOX D.T.P. Desk Top Publishing for the Amiga
U145 XCOPY PROFESSIONAL Very easy & powerful disk copy
U146 C-MANUAL II (4 disks) Teach you how to program C
U160 600 BUSINESS LETTER ready type business letter
U169 PAINT AND ANIMATE Tool to paint and animate
U170 BIORHYTHMS v4
U195 AMIBASE-PRO II regarded the best & easy to use
U220 AMOS PAINT Easier to use than D-paint
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U242 IMPLODER 4.0 Make more programs fit on one disk
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U738 S. KICK PROFESSIONAL v3.2 (WORKBENCH 2/3 ONLY) 3 versions of the A500 emulator (NEW)
U742 HOW TO CREATE AUTOBOOT DISK self explanatory
U743 UTILITIES DISK MAKER 3 create auto boot disk. Ideal companion with above, recommended
U744 FRACTAL MANIA 93 & Biomorphs
U746 GARDEN DESIGNER design GARDEN with shrubs, trees, footpaths etc in full 3D
U747 ASTRONOMY V2 new latest version
U748 ILLUSIONS draw colour cycling effect
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U784 DMS PROFESSIONAL V2 Compress 2 disks into 1
U791 POOL WINNER GOLD 3 Pools prediction
U782 CITIZEN PRINT MANAGER for Citizen printer
U846 C64 EMULATOR V3 latest release, much improved Commodore 64 emulator *C64 UTIL (2 disks)

GAMES

G096 POPEYE LCD C64 classic conversion
G112 CUBULUS puzzle games based on a RUBIK CUBE
G222 MEGA 21 GAMES collection of 21 game packs
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G272 TANK BATTLE Brilliant 2 player game
G274 MR DUG Arcade conversion (low years back)
G329 MADONNA NUDE PUZZLES 15 puzzles (jigsaw game)
G330 TOP SECRET Brilliant platform games similar to OCEAN RAINBOW & PARASOL (not A1200)
G333 CYBER-NETIC regarded the best defender type games with all usual powerup. Recommended
G334 DONKEY KONG Rescue your girlfriend (not A1200)
G335 CRAZY SUE 2 cute platform games. Brilliant graphics
G356 WONDERLAND brilliant Mario Brother games clone

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G470 BALL LIGHTNING 1 or 2 player multi level platform
G490 MEGA BALL 2 new & highly playable breakout
G500 TRANSPLANT Voted the best game of 93, brilliant E-TYPE clone but much better, loads of power up & level
G502 DRAGON FIRE Excellent graphics (A500 only)
G519 LABYRINTH II Very good text only adventure
G520 FATAL MISSION 2 (new see G410)
G521 FRUIT SALAD VG collect/ platform type games
G530 MAD FIGHTER (A1200 only) Superb street fighter 2 clone with very large well animated characters
G531 OPERATION FIRE STORM detailed graphic platform games with lots of action/shooting element. Brilliant
G532 AGA KLONDIKE (A1200 only) (3 disks) the best card games yet & each card has different glamour girls pic
G535 BLACK DAWN the best RGP games yet similar to HIRES GUN, very highly rated in most Amiga magazines
G540 ORK ATTACK Very bloody shooting games with large & detailed graphics
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G546 RAID 4 refined vertical scroll shoot em up
G560 IMPERIAL WALKER Take control of an X wing fighter in this 3D game
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G546 RAID 4 more refined vertical shoot em up
G657 AMOS LOADSA MONEY another very good fruit machine simulation with exceptionally large reel
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G667 GOLF (2 DISKS) One of the first PD GOLF games
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G670 ESCAPE FROM DOOM animated graphic adventure
G671 DUNGEON FLIPPER This is the first & only Pin Ball
G672 JIGSAW (2 DISKS) Jigsaw games
G673 "BOBBY" GARDEN + DIGGER (NEW) 2 digger type
G674 HIGH OCTANE (NEW FASTER VERSION) not A500 1.3
G675 TIME RUNNER III very similar to the FLASHBACK

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E44 STEAM ENGINE V2 Cut away animation of the Steam Engine
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E101 WORLD GEOGRAPHY map of the world & Britain
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E107 TRUMPTY FIREWORK ALPHABET Very entertaining way to teach your child the alphabet, fully animated
E109 MR MEN OLYMPIC (2 disks) large Mr Men characters as the stars even for this Olympic. Recommended
E110 CULT TV DATABASE (2 disks) info on early TV films
E115 ELECTRONIC WORLDS (5 disks) new K. James bibles
E116 HOW THE EARTH BEGAN Info on the Big Bang
E117 PAINT BOX DEMO kid's paint program
E118 WORKBENCH 2 Tutorial (user guide)
E119 DINO WAR Quiz on dinosaurs
E120 JUNIOR MATHS with very colourful graphics
E121 PICTURE PUZZLE Fancy a game of JIGSAW
E122 WORD FACTORY Brilliant, spelling type games
E123 KID DISK 1 best education program includes COLOUR THE ALPHABET 2, Paint etc.
E124 KID DISK 2 more high quality education
E125 JURASSIC PARK must for all dinosaur fans
E126 CHILDREN'S SONGS 2 - 5 excellent children's songs
E127 MING SHU (A500 only) Chinese Astrology
E128 ASTRO 22 PRO V3 latest astrology program
E129 KID DISK 3 (DTP) (follow up Kid Disk 1 & 2)
E130 FRENCH VERB TESTER - helps you with French
E131 CULT TV DATABASE II (2 DISKS)
E132 PHOTOGRAPHY - the Darkroom Brilliant demonstration, how to develop (photo) film. Recommended

More education software in catalogue disk

18+ DEMOS

D001 +Showering Girl 5 (A)	D030 +Mega Maid* (A)
D003 +Bodytalk (2) (A)	D031 +Calendar Girls (A)
D006 +Vic Calendar 1990 (A)	D032 +Mayfair (A)
D007 +NIGHTBREED (A)	D033 +Utopia (A)
D009 +Maria Whittaker (A)	D045 +Girls of Sport (A)
D024 +Sabrina Special (A)	D049 +Page 3 Girl (A)
D025 +Die Filkinger (A)	D070 +Gon Gon Girls (A)
D026 +Madonna Early Days	D071 +Tina Small (A)
D028 Kathy Lloyd*	

DEMOS

D011 MULTITASKING Demo of what is multitasking
D016 DEAD DANCE THRASH good dance music based demo
D050 PINK FLOYD THE WALL (6 disks) Massive music & demo lasts a long time (requires 2 disk drives)
D091 STAR WARS DEMO (2 disks and A500 only) Super starwar demo, lots of X wing units
D107 ODDYSEE (5 disk & A500 only) Incredible 40 minute space epic journey movies. Recommended
D118 STAR TREK MEGA DEMO A (A500, A1200)
D120 1911 VOYAGE Brilliant demo lot of fill vector
D152 THE ELECTRIC TOUCH Multi scroll vector etc
D174 ACID MIX 5 brilliant acid track
D261 FONTIER Incredible Elite 2 demo animation
D251 MANGA WORLD Brilliant manga slideshow
D252 JAPANESE LANG Learn how to speak Japanese
D253 SUNTEAM GG ESWAT Eswat games
D254 AKIRA DEMO Akira Manga demo
D255 TROOP JUGERNORT 1 Story & games
D256 MANGA WORLD 2 More Manga slide show
D257 SUNTEAM QUIZ Quiz
D258 MAKE IT SO EASY Guns

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NEW just released brand new collection of 100 demos. Must for all DEMO lovers, destined to be No. 1 seller, ONLY £8.00
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A1200/A4000

AGA001 EXTENSION DEMO stunning demo with fast landscape anim and a rotating city, receive 90% in CU
AGA002 FRACTAL GENERATOR(NEW) Create stunning fractal in 256 colour
AGA003 WORKBENCH HACK Load of hack/toy/blanker etc
AGA006 NEW SUPERKILLER Know & kill 316 types of virus, well recommended
AGA007 MINDWARP one of the very first demo for the A1200
AGA011 SLEEPLESS NIGHT 3
AGA012 PLANET GROOVE release by Team Hoi
AGA013 MOTOR INVADER 2 (2 Disks) Very playable INVADER clone set. Recommended
AGA015 POINT OF SCALE Stunning vector demo came direct from France
AGA016 CHROMA good demo
AGA017 WORLD OF MANGA AGA (4 disks) Load of cute Manga chic slide show in stunning 256 colours
AGA021 MAGIC WORKBENCH Improve the look & add extra command to your Workbench (HD required)
AGA023 U-CHESS the best chess program so far, stunning graphic but requires 4 megabytes
AGA024 WORKBENCH 3 SCREEN Great back drop for A1200 (not for beginners)
AGA41 GIF BEAUTIES VOL 1-10 Available each disk auto boot & contain loads of stunning pics of raunchy women. Note fully compatible with any AMIGA
AGA062 BODY SHOP VOL 1-7 Available (2 disks each) See description above (A1200 only) & order with volume number 1 to 7 (2 disks per volume)
AGA080 FIT CHICK VOL 1-5 Available (2 disks each) see description above (A1200 only)
AGA90 ASSASSIN FIX DISK 1 brilliant collection of degrade utilities for running non compatible software, we recommended you get this 2 disk now
AGA91 ASSASSIN FIX DISK 2 (new) latest contained more degrade utility (see above) Recommended
AGA94 RELOKIT V1.4 latest, run A500 SOFTWARE
AGA97 A1200 UTIL - AGA TESTER, SYSINFO etc.
AGA98 ACTION REPLAY V4 Complete ACTION REPLAY on disk
AGA99 MADFIGHTER 2 brilliant street fighter clones
AGA100 AGA BLITZ SCREEN BLANKER
AGA101 FAST GIFF 2 display GIFF pic in Workbench
AGA102 AGA DIAGNOSTIC - NEW system tester
AGA103 BLACK BOARD AGA decent image processor
AGA104 REND 24 Similar to above
AGA105 QUICK GRAB AGA - can grab AGA screen
AGA110 WORLD BEYOND 1 (3) stunning 250 COLOUR fantasy art, leaves Atari users breathless
AGA114 SMELL LIKE CHANEL NO5 brilliant demo
AGA121 MAGIC FACTORY (1-5) STAR TREK stunning 256 colour raytrace startreks, brilliant
AGA133 AGA UTIL v1 AGA util compilation
AGA134 AGA UTIL v2 more AGA util compilation
AGA135 AGA UTIL v3 more of the above
AGA136 AGA UTIL v4 even more of above
AGA137 IMAGE PROCESSOR IFF picture processor
AGA138 MULTIBOOT - 4 various versions A500 EMU
AGA139 WB3 HARD DISK PREF & INSTALLER installing WB3(option) for the hard disk
AGA140 CROSS DOS PLUS v5.1 read/write PC files
SEE GAMES, UTIL ETC. FOR MORE A1200 SOFTWARE

ANIMATIONS

A013 SPACE PROBE search for alien lifeform
A022 LUXO TEENAGERS Incredible ray trace animation
A072 LIFE A BITCH (3ss) We all know life's a bitch
A179 THE LIVING WORLD SLIDESHOW
A187 PERIL OF THE DEEP (2 disks) Incredible slideshow of very big sea creatures
A193 NEMESIS COMIC Animate comic set in space
A215 MADONNA 3 (3 disks) Madonna fans, get this, a must!
A231 ALIENS The best Alien slideshow & demo
A293 MANGA COMIC Cute, chic and robot slide
A302 CAT SLIDESHOW For all cat lovers
A316 FAST CAR (Not A1200) & expensive car slide show

MUSIC

M001 BEASTY BOYS Good, We Want Some Pussy songs
M002 MICHAEL JACKSON Brilliant song of "BAD"
M005 +100 C64 TUNES 100 C64 Games Music
M072 +MADONNA songs from the hanky panky album
M076 POPEYE meet the Beast Boy, very good
M156 +CD PLAYER Simulate a CD player
M160 +I AM TOO SEXY (2 disks) full song
M194 JESUS ON E'S (2 disks) Super music disk
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NOTES all packs above contain the new Spectrum em v2+. All packs above contain top quality Spectrum games + you can order more than one pack as (GUARANTEED) all the packs contain different games and

BARGAIN BE QUICK ANY 2 PACK ORDER

attention all Spectrum emulator v1.7 & 50 games (bought from us in the past). Upgrade to the V2+ & 100 games for only £4.99 + return original Spectrum 1.7 pack)

101 GAMES COMPILATION PACK 1 ONLY £10.99

Brilliant collection of over 100 of the very best of PD games includes INVADER 2, Tetris, Monopoly, etc. much too many to list, very easy to use menu system, most games come with full playing instructions. MUST FOR ANY GAMES PLAYER

PRICE ONLY £10.99 WAS £12.99

NEW 101 GAME 2

PRICE WAS £14.99 NOW ONLY £12.99

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101 games packs 1 or 2 are compatible with all AMIGAS
IDEAL CHRISTMAS PRESENTS FOR ALL THE FAMILY

NEW TITLES (Latest)

AGA 250 LOTTERY WINNER - This brilliant program will help you predict the National Lottery number
U902 SNOP DOS V3 - Will tell you why some programs refuse to work. A must utility for all Amigas.
EXTRA SPECTRUM GAMES VOL 1-25 NOW AVAILABLE.
AGA160 GIGER TRIZ. Very playable 256 colour Tetris.
AGA162 FATAL-BLOW - new STREET-FIGHTER 2 clone.
AGA164 CINDY CRAWFORD Vol. 1 (2 disks). Latest release.
AGA166 INFESTATION (3 disks). The ultimate AGA demo.
AGA169 AGA SPECTRUM V1.3. Special AGA version brill.
AGA170 CINDY CRAWFORD Vol. II (2 disks). Amazing.
AGA172 VIDEO TRACKER AGA. Ultimate demo maker.
AGA174 MAGIC WB EXTRA Vol 1 & 2 (2 disks).
AGA180 GIF BEAUTIES Vol 11-18. 8 more girlie disks.
AGA189 FRIDAY AT 8. Another brilliant AGA demo.
AGA190 ASSASSIN MULTIVISION AGA. Pic viewing util.
AGA192 ALIEN FRENZIE. 2 player blasting + power up.
AGA194 BIG TIME SENSUAL (2 disks). Space Ball 2.
AGA200 MASQUERADE (2 disks). Brilliant puzzle game.
AGA202 RAM JAM 94. It can't be done (2 disks).
AGA203 EXPLICIT 2 DEMO. New effect, well done.
AGA204 COMPLEX ORIGIN (2 disks). Requires 2 disk drives.
AGA206 TREASURE OF TUTANKHAMUN. Education tool.
AGA210 CHANEL Z DISK MAG (2D) A1200 disk magazine.
AGA220 KLONDIKE NEW CARD SET. (7 disks).
AGA230 LOVE 2. Disk simply brilliant.
AGA231 AGA UTIL 7 & 8 (2 disks). More utils.
AGA234 KNOTTY. Stunning AGA sliding picture puzzles.
E161 CLI & SHELL TUTOR (help). Ideal for beginner.
E162 DELUXE PAINT GRAPHIC TUTOR V 3 & 4. Recommended.
E163 JAPANESE - Teach you the Japanese language.
E165 KEYBOARD TRAINER. An excellent typing tutor.
E167 WORD POWER - Spellcheck/crossword solver/teach.
E163 CROSSWORD CREATOR - Design crosswords.
E165 CHESS II & TUTOR. Brilliant Chess II games.
E166 PAINT IT (not A500 1.3). Latest COLOURING BOOK.
E169 HISTORY OF AVIATION Vol 1. Excellent disk.
E171 CHILD FAVOURITE.
E175 FRANTIC GUIDE TO COMPUTERS (2D). Brilliant & funny.
E177 CYBER PUNK 2. For Cyber Punk freaks only.
E181 SIGNATURE CREATOR. Customise your own signature.
E182 VIRUS WORKSHOP V4. Comprehensive guide.
E176 MAJOR LEAGUE.
G732 DITHEL IN SPACE. Massive exploring ex/shoot game.
G735 OVERLANDER. Brilliant arcade MOON ALERT clone.
G737 SERIOUS BACKGAMMON. The best backgammon ever.
G772 UN-SENSIBLE SOCCER. Amazing, a true gem. This is the most, if not the best PD SOCCER game. Brilliant.
G782 SOLO ASSAULT 3D. Like Wing Commander on the NES.
G785 THE GREAT GOLD RAID. Simple but extremely addictive.
G784 NANO FLY. Superb exploration type game. RECOMMENDED.
G787 ANT WAR V1.9 (LATEST). Not 1.3.
G790 GREEN FIVE. Amazing graphics, just like FLASHBACK.
G771 STAR WOID (2 Disks). Brilliant Thrust clone.
G774 TRICKLE TREAT. This is DOOM II on the Amiga.
G790 TASK FORCE. Very good MIND SHADOW clone.
G791 PROFESSIONAL BINGO CALLER.
G792 MARTIAL SPIRIT. Brilliant STREET FIGHTER II.
G802 BOULDER DASH COLLECTION 1-5. Brilliant (5).
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U887 DISK REPAIR KIT. Floppy & HD util.
U950 RANDOM DOT STEREOGRAM generator. Not 1.3.
AGA150 ACTION REPLAY V5. New update to V4.
X76 CINDY CRAWFORD (2 disks). The best glamour yet.
U782 CHEAT V3 - contains 1000+ games cheats & solutions.
E150 INTERNET - Full guide to internet & superhighway.
A419 HAVE A LAUGH - 64 humorous seaside postcards.
U781 ACCOUNT MASTER - Brilliant accounts program.
AGA141 FERRARI ART 2 (2D) - loads of Ferrari & ray trace.
AGA142 SUPER LEAGUE 3 -latest manager games.
AGA144 SPEAK & SPELL - educational software for kids.
AGA145 BIG TOPS (18+ only) Hmm.
AGA146 KELOG LAND - brilliant platform game get – a must.
E148 CHESS & TUTOR - Teaches you how to play chess.
E142 KID DISK 5 & 6 - 2 disks full of brilliant games and educational programs with large anim. and graphics 10/10.
G680 SPACE INVASION 2 - Fantastic Galaxian clone.
G681 AUTOMOBILES - PD version of SKID MARK brill.
G682 BANDIT MANIA - Brilliant fruit machine demo.
M070 KYLIE MINOGUE - (2D) full-song 'Made in Heaven'
X075 MADONNA SEX (3 disks)-18+ only
X074 ADULT JOKES (18+ ONLY) Hmm.

New Pack

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COMPUGRAPHIC FONTS available pack 1, 2 or 3
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All packs above are suitable for Propage, Pagestream, final copy etc. (please check manual for compatibility).
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BITMAP CLIP ART 5 pack available. Very high quality clip art for virtually all DTP & Paint programs.

*All packs above come on 5 disks each and are guaranteed. No fonts or clip art images are repeated.

SYSTEM

Your essential guide to the world of Amiga gaming



Seconds out... round 2

Acclaim is back with the world's bloodiest beat-'em-up

This month the spotlight falls upon

SYSTEM ANALYSIS

Super Stardust update

Amiga gamesplayers who own an Archos Overdrive HD and are experiencing problems running Super Stardust need fret no longer! If you want to resolve the problem, please send the registration card which comes with the game, along with an explanatory note, to Kenny Grant at the Team 17 address. A new version will be issued ASAP.




No more problems for Archos Overdrive HD owners

system online



System 'scoop', Tina Hackett brings you the latest from the world of Amiga gaming. This month we have news of Worms, Super Streetfighter 2 and High Seas Trader

Outside, now!

The Amiga has gone beat-'em-up crazy at the moment and US Gold is hot on the trail with the latest Street Fighter 2 saga. Called Super Street Fighter 2, it adds four new players, each with a new setting.

The new characters are Cammy, Dee Jay, Fei Long and T Hawk. All the oldies are there too, like M Bison, but they have been improved. For example, Bison has a new attack which can pass through projectiles and Chun Li has a chargeable fireball.

Programming is by a US Gold in-house team and promises to play like the arcade version. Music-wise, the CD32 game will have a full soundtrack and for the Amiga versions they are trying to recreate the sound from the arcade.

Super Street Fighter 2 will be available this February for the A500, A1200 and CD32.

Can of Worms

Team 17 is still a hive of activity for Amiga games and yet another release is planned this year. We've been receiving Barbara Windsor-esque press releases from the Teamies lately, stacked full of innuendoes. This particular one asks: "How hard is your worm?" and then goes on to explain the lowdown on its latest release, Worms.

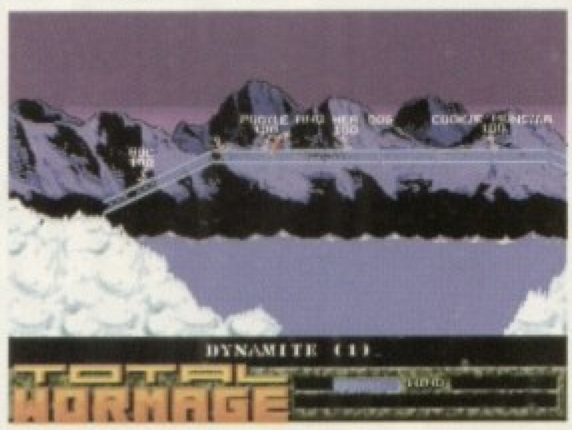


Worms: A novel war-'em-up from Team 17

It revolves around the unusual concept of, believe it or not, worms! The worms are at war and up to 16 people can play with the aim of trying to kill each other's worms.

Alan Bunker, Media Manager, describes the project: "How can I best describe Worms? A cross between Lemmings and Cannon Fodder, perhaps? Worms contains strategy elements combined with a huge and generous dose of violence. It's side-splitting action all the way!"

The worms all have different weapons at their disposal, such as homing missiles, bazookas, dynamite, and they also have combat abilities such as Dragon Punches. There are all the other war tactics too. For instance, you'll have to build bridges over water obstructions or call enemy strikes. Apparently, all the worms have individual voices and you can add your own as well!



Worms looks like being a cross between Lemmings and Cannon Fodder

According to Worms' Project Manager, Marcus Dyson: "If this game doesn't send you into fits of orgasmic merriment, then you don't deserve to be part of Wormkind."

Crazy, yes.. very probably!

Park life for CD32

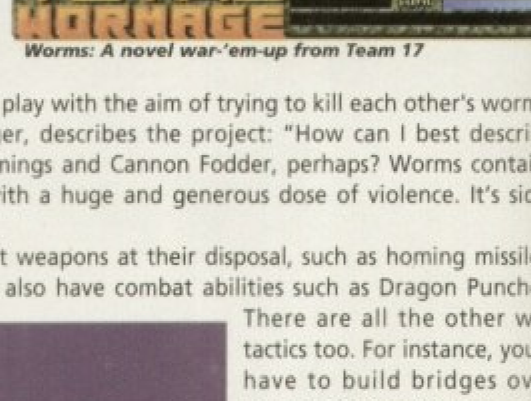
Bullfrog's hit game, Theme Park, is all set for the CD32. Its excellent business sim has received nothing but praise so far and scored 92 per cent in System, earning it the much coveted Platinum Award.

Bullfrog's other commitments mean that it won't actually be doing the conversion. This will be handled by Mindscape who has been working on the project since the summer.

CD32 owners can try their hand at being business tycoons soon for £34.99!



Bullfrog's superb game Theme Park is set for the CD32



Audio's avalanche

Audiogenic has a number of releases planned this year. One of these is Exile, a game that was originally released on the A500 a while back and was badly let down by the graphics. Thanks to AGA graphics, this is a much improved version for the A1200 and CD32.

It is an arcade adventure game and is set in space. A deranged genetic engineer had been exiled to the planet Phoebus and was thought to be dead. But you find out to the contrary and that he has built a laboratory to continue his dodgy experiments. It's up to you to stop him.

Exile looks to be very realistic with true-to-life effects such as gravity, inertia and buoyancy. Atmospheric sound effects also add to the game.

Audiogenic's next release is Super Loopz, a puzzler game where you have to join the pieces to create loops. The bigger the loops, the more points.

It's not as easy as it sounds because the screen becomes filled with half-completed loops. There are three different modes ranging from arcade and standard, to puzzle, and one or two players can take part. Audiogenic promises that it will be 'dangerously addictive!'

Both releases are expected this February.

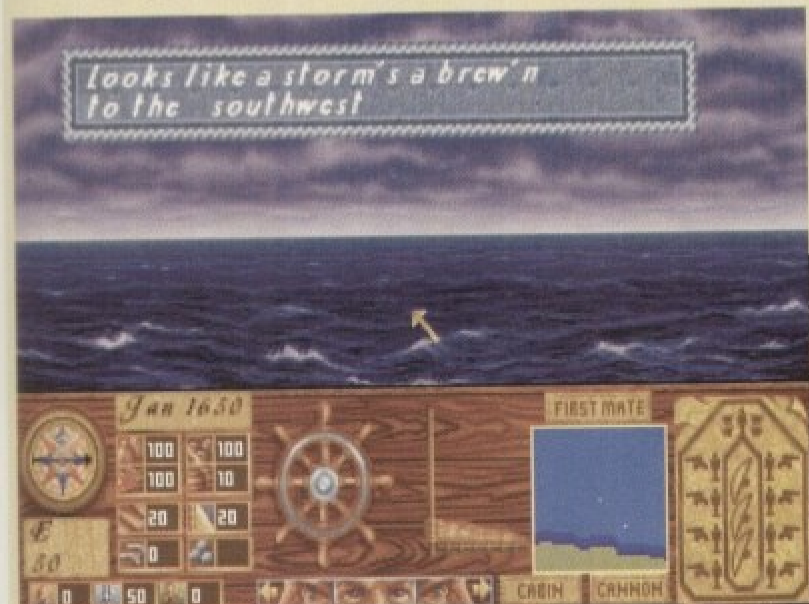
Trading on the seven seas

Impressions, renowned for its strategy games, is set for another offering in the same vein. The premise is very different though. Called High Seas Trader, it takes place, yes, you guessed it, at sea.

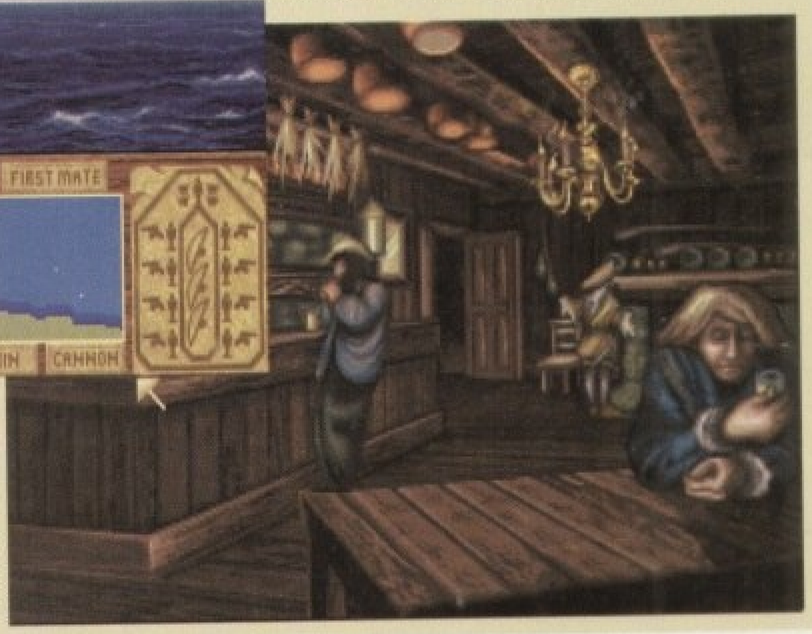
You take the role of Captain and command anything from a cargo vessel to a warship and it's your aim to sail around the world, making your fortune in trade and keeping the pirates at bay. With your realistic sailing aids you'll need to set your course, steer the ship and chart your progress.

The job of Captain also means having to recruit the crew and making sure their health and morale doesn't flag. You'll also take part in tactical combat and keep an eye on political systems which can affect any of your alliances.

Budding sailors can buckle their swash this February. Publishing is by Daze Marketing.



If you've always fancied being a Captain of a ship, now's your chance



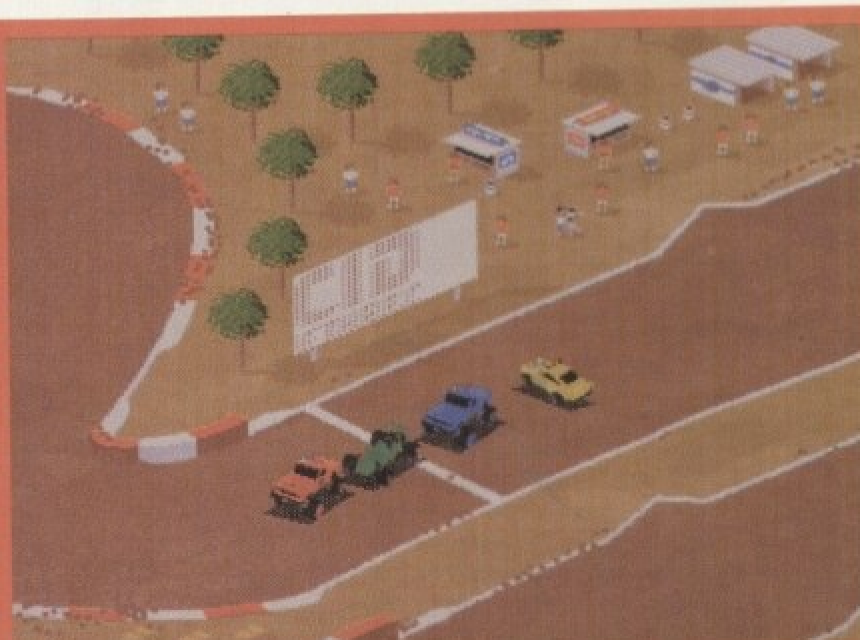
High Seas Trader will be an unusual addition to the strategy genre

Skidmarks sequel

Acid Software has been busy at work on its next title. The release of its sequel to the popular isometric racing game Skidmarks is imminent. It's called Skidmarks 2, funnily enough, and is to have a whole host of new features.

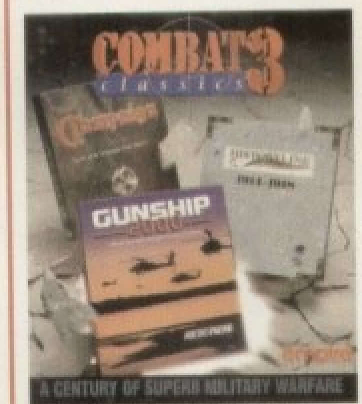
These include a new eight car mode for AGA machines, 12 new tracks (plus the original 12), caravan towing and new cars including the Mini, VW, F1 and the Midget.

There will also be a triple split screen for three players to race on one Amiga, shared screen mode for up to four-player team racing, and improved comms support for local and remote linking.



The original Skidmarks was very popular with Amiga gamesplayers

In Brief



Combat Classics 3 is the essential bargain for all warmongers!

Combat Classics

Here's a budget compilation for all the war mongers out there. It comprises three war games that includes Gunship 2000, the best-selling simulation of the AH64A Apache which puts you in command of one of America's most powerful rotor craft; Campaign, a WW2 military warfare sim which takes you over 20 historically accurate locations and gives you control of around 3000 vehicles, and finally Historyline 1914-1918, a WW1 wargame sim. Combat Classics 3 is priced at £34.99.

Taxing matters

The recent government budget announced a new license duty on coin-op machines but it could be good news for the home computer industry. The tax places a £250 annual fee on all non-cash prize machines which will push up the price-per-play. It is thought that this may make the machines quite expensive and drive the kids from the arcades and back to their home machines.

Italian stallion

Core Design has signed up little known Italian developers Dynabite. The Genoan company is putting the finishing touches to its title, Big Red Adventure which is initially out on the PC, but Amiga versions are planned. Core is hopeful that the deal will be on-going.

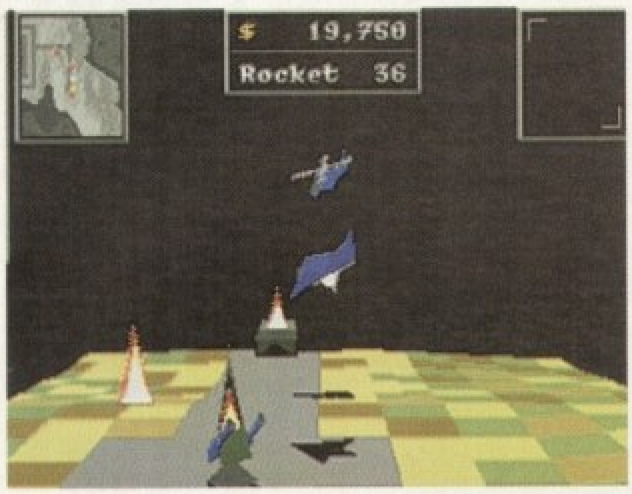
System Selections

Stuck for what to spend your hard-earned cash on? Take a look at some of the best games we've seen over the past few months



Gaurdian CD32

This game is a rarity in that it actually looks and sounds like 32-bit technology. What's more, the attraction is more than skin deep thanks to playability that must have taken a lot of care and attention on the developer's part. If you're out for plain old-fashioned action, buy Guardian and invigorate your spare time. This one shouldn't be missed.



Zeewolf

The game plays like a dream. Once you've mastered the controls you're away in a shoot-'em-up world packed full of action and excitement. Binary Asylum can slap itself on the back because Zeewolf is a tremendous success. It's a game that doesn't rely on heavy advertising or publicity to sell it, but simply lets the gameplay do the talking. I have nothing but praise for Binary Asylum's debut and it's one of the gaming highlights of 1994.

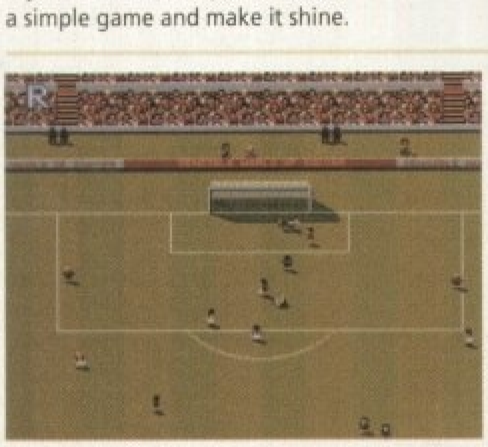
Ruff 'n' Tumble

Ruff 'n' Tumble is one of the best platformers I've played in ages. Wunderkind has done an amazing job and seems to have got every single element of the game just right. The graphics are superb, the sound is good, the gameplay is amazing and it has an uncanny level of addiction that'll keep you playing it again and again. Ruff 'n' Tumble is, quite simply, the cutesy platformer of the year.

Roadkill



A sore thumb and a foul temper were sure signs that the game had me gripped. It may not look much, but it has all the elements that a thoroughbred arcade game should have. The developer deserves full credit for balancing so many appealing features in one game. Roadkill is yet another triumph for a software house that can take a simple game and make it shine.



Sensible World of Soccer

The interaction between the tactics and the transfers is just brilliant and in my mind, SWOS is the world's first football game that has managed to get a perfect balance between a pure arcade game and a management simulation. I had my reservations about yet another episode of Sensible Soccer, but I've had those firmly destroyed because SWOS, quite simply, is the best Amiga game that money can buy.

The scores on the doors

Come on regular readers, you must know how it works by now. New readers, welcome to the most exciting part of the mag and hold on to your hats...

I'm sure many of you are now familiar with our new scoring system, but for those reading *Amiga Computing* for the first time and those who might have forgotten exactly how it works, here is our guide to the System scoring, err system.

In our opinion, review scores have lost their context as a percentage; some products receiving scores which were only a few percentage short of being the "perfect" game, when in truth they were only marginally above average.

OK, so the scores might seem unnaturally low at first, but that's only because other scoring systems tend to be on the high side and perhaps not as comprehensive or honest as they could be.

In the long run you'll receive a more concise and reader-orientated review that's geared towards the consumer.

0-20 This is given to the lowest of the low

21-30 An all-round poor game that may have a single saving grace

31-40 Just below the average, perhaps let down by a few indiscretions.

41-55 Games of this score are roughly average with 50 being a perfectly average score.

56-66 This is an above average game and is worth buying. For this reason it would be awarded the BRONZE award.

AMIGA BRONZE AWARD

67-77 A game of high quality that you as a reviewer would have no reservation in recommending. Anything of this ilk would be awarded the SILVER award.

AMIGA SILVER AWARD

78-89 A brilliant title. Definitely worth buying and almost the definitive of its kind. This type of game would receive the GOLD award.

AMIGA GOLD AWARD

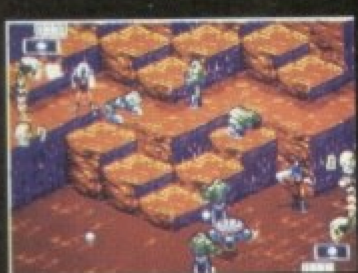
90-100 The best in its genre. This benchmark title receives the PLATINUM title.

AMIGA PLATINUM AWARD

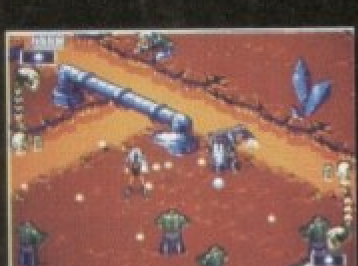
SKELETON KREW

Wanna pack a BIG GUN with enough ammo to level a city? You got it...!
Wanna massakre seriously psykotic Psykogenix mutants and get paid? You got it...!
Wanna blast your way through the savage secret zones, deadly Krewtraps, mad'n'bad buildings and hideous end-of-level Psykos comprising 6 HUMUNGOUS levels of 3D isometrik karnage - and wear a spectacularly sexy, hyper-hi-tek, Big Ordinance Neutralising Exo Skeleton to boot?









Well you got it all - but only if you join Spine, Joint and Rib, otherwise known as the SKELETON KREW, in their first outRAGEous blastfest!!

Up to two players.

Available on:
Mega Drive,
Amiga 1200
& CD 32







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SEGA™

MEGA DRIVE

Kicking off

1. Start off with Halifax Town as they have the best strikers in the division which means you should score more goals than anybody else.

2. Always play your best striker in the number nine shirt because he'll get far more scoring opportunities in that position.

3. Make sure your defensive players always shoot from long range because they're not going to get close to your opponent's goal very often.

Premier

4. Put your midfielders to long shooting as well because they'll score more goals from that kind of range.

5. Your strikers should have a medium shooting range, except for your star number nine who should shoot from short range as he will capitalise upon loose balls in the six yard box.

6. Never sell youth team players as you could have a Ryan Giggs on your hands. Youth team players improve quickly and help keep your team's average age down.

7. Try to ensure that all your squad have played at least four matches by the

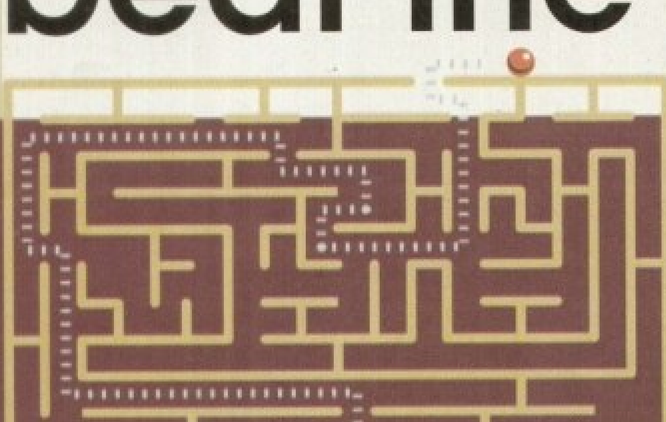


Always start off with Halifax Town as they have the best strikers playing for them. Make sure the No. 9 shirt is filled by the best attacker



When you're down at the local job centre always hire the best men or women for the job in hand. It'll cost, but it'll be worth it

beat the system



It's a massive double-header this month. There's a full set of hints and tips on how to make it to the top in Premier Manager 3, plus a complete guide to Darkseed, which has just made its debut on the CD32.

Dark

Enter the bathroom and use the aspirin from the cabinet. Click on shower stall. Go to the second upstairs bedroom through the right door of the bathroom. The library card is in the raincoat. Head downstairs. On the office desk are some plans which show you where the secret passages are. Watch out for the secret doors as they close behind you and this will cause problems when you reach the dark side. Make sure they're always open.

Climb the ladder. On the second floor you'll find some rope. Exit the passage. The doorbell may be ringing, so answer the door and look at the package. Now go to the attic. There is a watch under the biggest trunk. Wind the watch. Step onto the balcony. Tie the rope to the gargoyle and climb down it to the garage. Open the car trunk and take the crowbar, then take the gloves out of glove compartment. Go to the front of house and read the paper.

Head back to the attic and open the trunk on the right with the crowbar. Go outside and move right towards the heart of Woodland Hills. In the library you'll find a bobby pin on the floor. Give the young lady the library card. Click on a green book to get an important message.



Darkseed is perhaps one of the weirdest adventures I've ever played. If you consider implanting babies into people's minds weird!

You'll need to pick up a bottle of scotch. Delbert will appear and give you a Get Out of Jail Free card and invite you over to his place, tomorrow at six. Exit and head left towards the graveyard. Read the diary to discover how to open the crypt. Once inside you'll find some urns where you'll find a key in Joe Tuttle's ashes.

Go home and open the clock case with the key and you'll find a nameplate. The librarian will call and tell you that she has a book for you. Go back into town to pick it up. Head back home and go to sleep.

At the start of the second day you must take your aspirin and have a shower. Kill some time and have a listen to the car radio. The missing piece from your parlour mirror arrives. Slip it into place and you'll have created a portal to the dark side. Be brave and cross over.

You'll notice two doors. Go through the one on the right to

Manager 3

end of the season, including any youth team players you might have. Their statistics will improve far better in the closing season with a bit of experience.

8. Set the defences' passing to about 70 per cent. None of that continental dribbling out of defence nonsense here, you're in the English league now matey!

9. Set the midfielders' passing rate to about 60 per cent.

10. Put your attackers' running to about 75 per cent and set the passing rate to short.

11. Try to hire all the best staff you can afford.

12. Always try to buy players over the phone, as you can often find out which players will work out cheaper out of contract. You can never beat personal contact when wheeling and dealing.

➤



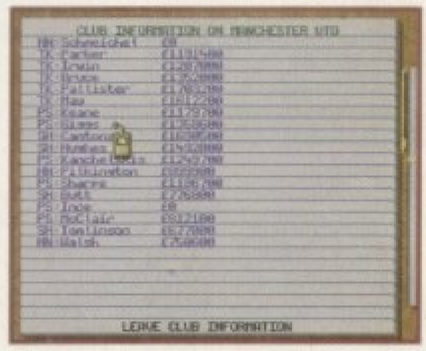
When you eventually bring a youth player up through the ranks to the first team, keep hold of him – you might have a genius on your hands



Results are what it all boils down to. No matter how good your decisions are, it's up to your players whether you'll become a success or a failure



Tactics play a very important part in Premier Manager 3. It will take a while to get things running smoothly, but once again it'll be worth it



Use the player loan facility as often as possible. You could pick up a quality player who'll you push towards promotion

seed



The beginning of your quest and Mike wakes up with a raging headache. The aspirin in the cabinet will solve your pains



You'll find a car in the garage. Its trunk holds an important item and it's a good idea to try and fiddle around with the radio

the room with the skulls and have a look around. Enter the room to your left. You'll find plans for embryo implantation on the table. Now move through the door on the right. This corresponds to the secret passage door, downstairs in the other world. Step into the turbo-lift. Head left to the observation deck. On the wall you'll find a switch, so use the gloves to activate it. Return to the lift and go to the room with the skulls. There is now an open door, which you must go through and bear left until you find a shovel. Return to and go through the mirror portal.

Walk to the graveyard and exhume John McKeegan. You'll find a piece of his journal - read it. The police have staked out your house and you'll soon find yourself locked up. You have the Get Out of Jail Free, but first you need to stow some supplies. Leave behind the gloves, the money and the pin. Stick these

➤

13. Make sure that when fit, your players are always in training. There is no room for slack in the modern game.

14. Try to keep your players' moral high, at least seven. Financial bonuses will help raise their moral, but don't go mad if you haven't got much cash.

15. Use the player loan facility as much as you can. You can sell someone else's half-man into the dirt and remember, a reserve in a higher division may well be better than one of your own stars.

16. To maximise support and revenue, and minimise fines and penalties, aim for the following statistics in each division:

Conference

Ground Safety = 2 Stars
Ground Facility = Basic
Gym = None
Ground Rating = 40%
League Seat Price = £5
League Terrace Price = £3
Cup Seat Price = £8
Cup Terrace Price = £5
Overdraft/Loan = £250,000/£50,000

Division 3

Ground Safety = 2 Stars
Ground Facility = Average
Gym = Basic
Ground Rating = 50%
League Seat Price = £8
League Terrace Price = £5
Cup Seat Price = £12
Cup Terrace Price = £8
Overdraft/Loan = £750,000/£100,000

Division 2

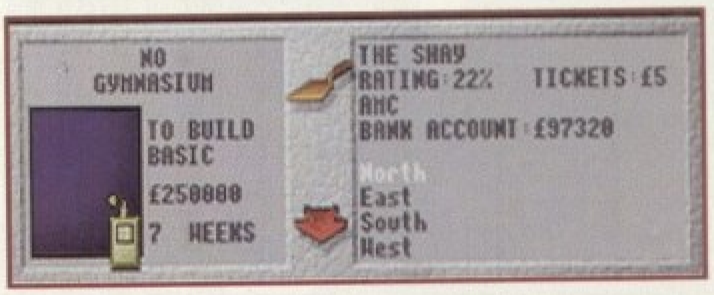
Ground Safety = 3 Stars
Ground Facility = Good
Gym = Basic
Ground Rating = 60%
League Seat Price = £12
League Terrace Price = £6
Cup Seat Price = £18
Cup Terrace Price = £9
Overdraft/Loan = £2,000000/£200,000

Division 1

Ground Safety = 4 Stars
Ground Facility = Excellent
Gym = Average
Ground Rating = 70%
League Seat Price = £14
League Terrace Price = £8
Cup Seat Price = £21
Cup Terrace Price = £12
Overdraft/Loan = £5,000000/£500,000

Premier League

Ground Safety = 4 Stars
Ground Facility = Excellent
Gym = Average
Ground Rating = 80%
League Seat Price = £16
League Terrace Price = £10
Cup Seat Price = £24
Cup Terrace Price = £14
Overdraft/Loan = £8,000000/£750,000



When making ground improvements it's a good idea to build a gym as your players will train and their fitness will improve

17. The better the gym you have, the better your coaches will perform.

18. For those who are completely rubbish at Premier Manager 3, then these cheat numbers, which can be typed in on the phone, will help you on your way to success.

Type in 400040 and your players will instantly get high fitness, moral and both feet. Anyone you couldn't sell, you now can. The cheat also clears the director's debt and you can re-apply for more cash.

Type in 343343 and you will receive some much-needed extra money.



Use the telephone when trying to buy players as you'll always get a better deal, thus proving that it is 'Good to talk'

items under the pillow and grab the tin cup on your cot. Rattle it on the bars and when the guard comes, give him the card.

Go and meet Delbert at the back of your house, but steal the police gun before you go. Delbert will be next to the garage. Offer him some scotch and when he leaves, pick up the stick off the floor.

Cross the portal and take the first door on the right and then the door that the pulling of the lever opened. Follow the road until you meet Dark Fido, the bridge guardian. Throw the stick into the abyss. Go to the right until you get to the dark side equivalent of the police station. The Sergeant will put you into custody and will take away your gun.

Grab the items from under the pillow. Use the pin twice on the door. Swap the pin with Sargo for the headband which will make you invisible. Exit the building and go right. Walk past the guard and enter the Archives to meet the Keeper of the Scrolls. Activate the machinery and you'll get a roll of microfiche. Go home and go to sleep.

Day three of the adventure – take an aspirin and a shower. Wait for the delivery of a package and you'll find an axe handle inside. Go to the library and read the microfiche in the periodicals room, but don't use the rope instead of the front door. Go home and pick up another bottle of scotch on the way. Enter the house from the rear and go to the cellar.

Locate the loose stone, remove it and you'll find a set of car keys. Take the stone to the dark side power nexus. Energise the stone and then use it on the axe handle to make a hammer. Return to earth and go to the car. Pour the scotch into the gas tank, then use the keys in the ignition.

Cross the portal for one last time and enter the spacecraft. Use the gloves on the lever to start lift-off, then run outside.

After the animated sequence, you'll be returned to earth and all that's left to do is smash the mirror with the hammer and this, folks, is the end of the game.



The mirror is the portal to the dark side, but at the moment it's missing a vital piece to get it fully operational

INTRODUCTION

The original Mortal Kombat was one hell of a game and it sold like the proverbial hot cakes across almost every single game format, but it didn't do too well on the Amiga. Why? I don't know, maybe we just go squeemish at the sight of all that blood!

The actual game was a very good conversion from the console versions and was packed full of some of the most horrific and blood-soaked pixels you were ever likely to see. To make things even better, the game's designers had included a fair amount of playability and thus the graphics didn't take too much away from the gameplay.

Just as luck would have it, Acclaim, due to its success on the consoles, has released the second game in the Mortal Kombat series on the Amiga. To give you an idea of just how big this sequel is, there were two and a half million copies distributed to 15,000 retailers across the world. The game was backed up by a £7 million advertising campaign, it went straight to the number one spot in the Gallup charts, and was selling out across the UK within days of its release.

There is your evidence. Mortal Kombat 2 is the biggest, most important video game created so far, but how will it perform on the Amiga? Sometimes a product as big as this just gets hyped to death, everyone runs out to buy it and then finds out later that it was really a pile of rubbish.

Does Mortal Kombat 2 have the guts to kick its way to the top of the software charts, or is it lacking the muscle to fight off the competition?



Down in the sewer and Scorpion executes his fatality manoeuvre and leaves Jax bobbing up and down in the waste



Kung Lao, a master of all arts inculding haberdashery, demonstrates his infamous flying hat manoeuvre to Reptile

Mortal

We welcome the return of the world's bloodiest beat-'em-up! Jonathan Maddock punches and kicks his way through the blood and takes a look.



Choose from this bunch of reprobates and then get the joystick warmed up and enter the blood-soaked world that is Mortal Kombat

STORYLINE

While the kombatants in the original Shaolin Tournament wagered their lives upon their skills, in Shao Kahn's Outworld tournament the stakes have been raised.

The tournament first tests a warrior's fighting skill by pitting him against each of the Earth warriors. Once a warrior has defeated the other kombatants in the tournament, he then takes on the first of the Outworld's hosts, the demon Shang Tsung.

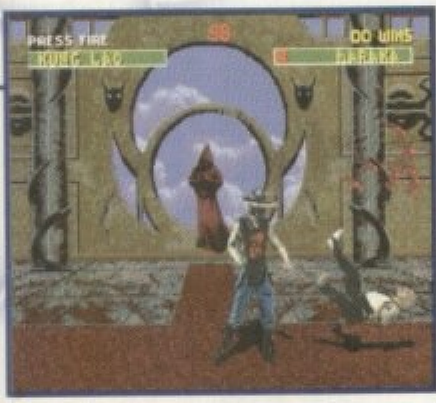
His youth restored by master Shao Kahn, Tsung possesses both powerful magic and considerable physical skill.

Should the warrior defeat Tsung, the next opponent is the huge Kintaro. Kintaro is from the same race of half-human dragons that spawned Goro. Enraged at his comrade's death (in Mortal Kombat 1) at the hands of a mere mortal, Kintaro sought entrance to the tournament to seek revenge. Shao Kahn granted him this privilege in exchange for his servitude.

Defeat Kintaro and you'll become powerful enough to face Shao Kahn, the supreme ruler of the Outworld. End his life and his rule and you'll achieve your objective and become the Supreme Warrior in the Outworld realm.



Rayden finds out that his flying move is useless thanks to Kung Lao's well-timed duck



Baraka is perhaps one of the best new characters in Mortal Kombat, but in this case he earns himself a beating from Kung Lao

GRAPHICS

I think this box should've been renamed 'Gore' because that's exactly what Mortal Kombat 2 is packed with – the fatalities are even worse than last time around. Multiple decapitations and cannibalism are at the forefront of the various 'death' manouveures. If you want to see someone getting the top of his/her head eaten off, or you want to admire someone else getting their arms pulled off, then I guess this is the game you've been lusting for, you sick sick person.

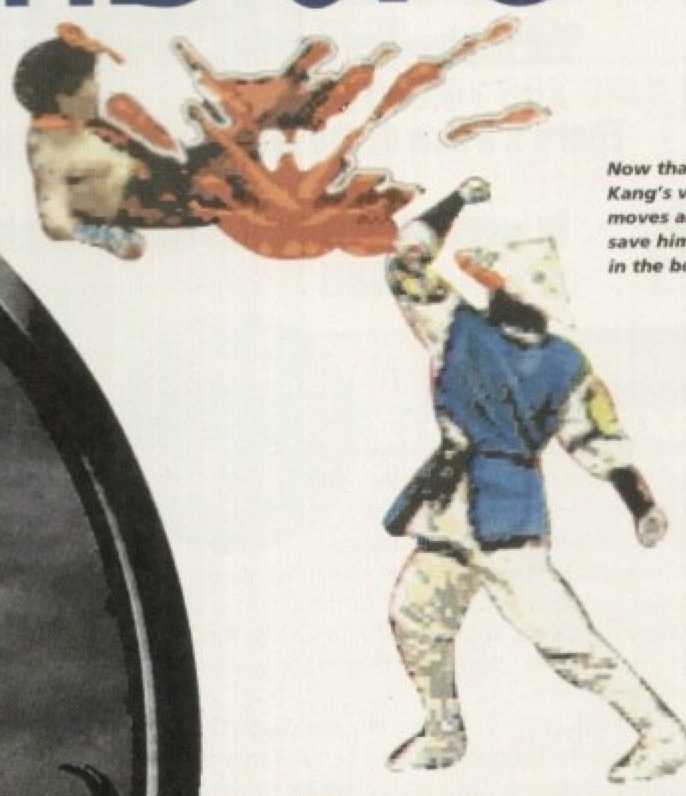
Of course this is what sparked off the controversy last time around and probably the reason, due to all the hype and media involvement, that the game became so big in the first place. Remember Mortal Kombat 2 isn't real and none of the characters really exist, so if everyone gets that into their heads then there won't be any controversy this time around...probably.

Take the blood and gore aside for a moment, and you'll find that the various backdrops and sprites look pretty damn good. The digitised actors have been faithfully ported over from the Megadrive version and look slightly better and a tad sharper than the sprites found in the original version.

Mortal Kombat looks brilliant when it's in full flow. It's as close as you're ever going to get to having a full-blown coin-op in your bedroom, and for that reason I stand up and cheer.

90%

Kombat 2



Now that looks painful! Lu Kang's vast array of special moves and manoeuvres cannot save him from getting punched in the botty

SOUND

Well, to be honest with you, I don't think you'll be impressed with the soundtrack contained within the game. It's fairly atmospheric and it's got a distinct eastern flavour to it, but it's nothing that you haven't heard before. If you like bog-standard coin-op tunes with no emotion whatsoever then turn up your TV, but I suggest that you simply turn it off or put on some banging tunes of your own on your stereo.

The sound effects are not too bad, with plenty of squelches and smacks to keep you interested, but there isn't anything that you haven't heard in the previous Mortal Kombat incarnation.

40%

- Publisher: Acclaim
- Developer: Probe Software
- Disks: 3
- Price: 29.99
- Genre: Beat'-em-up
- Hard disk install: No
- Control system: Joystick/joypad
- Supports: A500/600, A1200/4000
- Recommended: 68000

OPINION

80%

It took me quite a long time to come to a decision about the percentage Mortal Kombat deserves. OK, so the graphics are delightfully gory and blood-soaked, the presentation is top-notch, the soundtrack is abysmal, the sound effects aren't anything new, playability-wise the characters jump and move around the screen as they should – even though some of the moves are ridiculously hard to pull off at the right moment – and you always want to play it again as soon as you die, but the simple fact of the matter is that Mortal Kombat 2's difficulty level is set way too high to warrant me giving it an unbelievably high score.

The two-player option works well, but only if you and a friend are at the same kind of beat-'em-up standard. The one-player game is just far too hard to complete and if you can get anywhere near the end of the tournament then you must be the world's best gamesplayer.

Even by switching the games difficulty level to very easy, you still can't progress properly. One go you might defeat three characters on the run, but then you'll meet up with a fighter who you couldn't possibly defeat in a month of Sundays and it's more than likely you'll waste all your 30 credits in trying. Highly frustrating even for gamers with bags of patience.

Another downer is the outrageous amount of disk swapping that has to be done – surely somebody somewhere at Acclaim could have come up with a hard-drive installable version.

Tossing that comment aside, Mortal Kombat 2 is an astounding beat-'em-up that has been lovingly converted from the Megadrive version. Even if you have a casual interest in fighting games, you will want to get your boxing gloves around this, but watch out for that progress-thwarting difficulty level when you play it on your own.

Mortal Kombat 2 is a major improvement over the original, and in the years to come I'm sure it'll be heralded as a classic, only not by me.

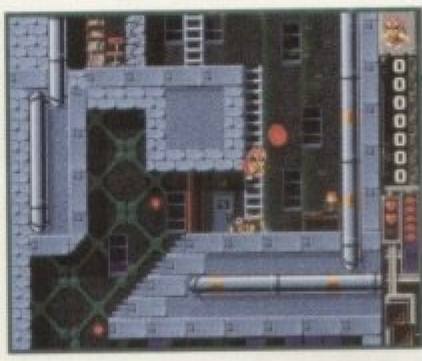
AMIGA GOLD AWARD

...inds ...his ...ove is ...hanks ...Lao's ...ed

INTRODUCTION

Rasputin Software has got its head in the clouds quite literally! Well, at least its game has. Given the curious name Base Jumpers, it's basically a sports game – but with a difference. In fact, it involves climbing to the top of a high building and then throwing yourself off the top. It's not most people's idea of 'sport' but to the East Beckinsdale Pigeon Fanciers Association this is their favourite hobby.

The game is divided into two main sections, a platformer where you have to get to the top of the building, and the jumping off part – you have to race your opponents to the ground, avoiding the various obstacles and deciding just when you should open your parachute.



The platformer element means avoiding the obstacle and getting to the top in the fastest possible time



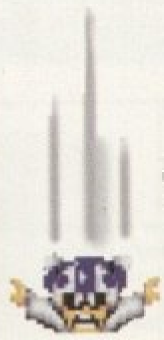
Dive to the bottom before your opponents – but remember to open your parachute in time

Base Jumpers

Forget bungee jumping, paragliding and snow boarding. There's a new craze in town! Tina Hackett dons her parachute to investigate what this Base Jumping lark is all about.



Base Jumpers may look quite basic but at least it's different!



SOUND

The intro tune that starts the game is typical lively game music and works well enough. Sound effects are good and are mainly there to create humour. For example there is the horrible squelch noise that occurs when your limbs fly off if you hit a drainpipe, or the good "Yeehar!" sound as all the jumpers throw themselves off the building. Other effects like springs, bombs and crashes add to the fun.

58%

GRAPHICS



Base Jumpers doesn't look the most wonderful of games. There are no 3D rendered graphics, no ray-traced effects, no futuristic backgrounds but hey, we've seen what happens to playability when you do have all these things (mentioning no games in particular!) So luckily, Rasputin has concentrated on things that really matter like gameplay.

The graphics aren't bad, by any standards. They do they're job well enough and the cartoon-style sprites are quite charming. The background for the platform section is designed around the puzzle elements like using stairs, springs and laser beams, rather than an intention to prettify the game. More functional than fancy.

50%

- Publisher: Grandslam
- Developer: Rasputin Software
- Disks: £25.99
- Price: £25.99
- Genre: Arcade
- Hard disk install: No
- Control: Joystick
- Supports: A500/600/1200
- Recommended: 6800 upwards

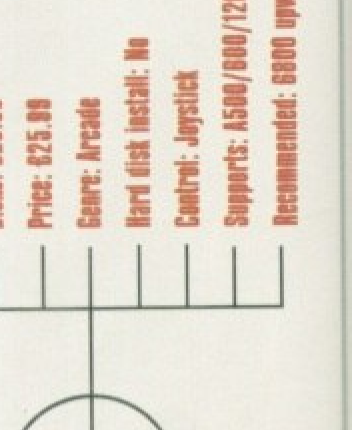
OPINION 70%

At first it's easy to pass this game off without so much as a second glance. You may even scorn at its simplistic graphics, but play it and play it again with one, two or three friends and you'll find it a really fun game.

Rasputin has done a fine job in mixing as many possible types of game into one. First you have the platform section where you'll have to negotiate all the spikes, lasers and springs to get to the top of the building, then billions of sub-games like beat-'em-ups and Portal Wombat, where you need to bash your opponent up a bit. And finally, the Base Jumping itself where you try and race your three opponents to the ground, opening your parachute at the last possible moment.

There are some classic comedy moments in this game, such as in Mortal Wombat where the death move is a falling sheep (you had to be there) or when you barge your opponent into a drainpipe, resulting in a rather gory squelch and their bloody limbs falling off! The cartoon speech bubbles are also a nice touch, like the odd "Oops" or "Yikes" as you head towards the ground too fast.

Base Jumpers is a great game. It's original, which instantly earns it extra Brownie points, it's fun and it doesn't take itself too seriously. I don't know how long the game would last you but it really does come into its own when you have the multi-player option on, and for a competitive game with a bit of humour you can't go far wrong!



LOOM

Rather an unusual game this one! It's more fantasy based than the other adventures in this pack, so adds variety.

You play the role of Bobbin Threadbare, a young boy with a magical knowledge who sets out across the land, interacting with other characters and solving mysteries. Bobbin is an inexperienced member of the Guild of Weavers and as the game progresses he learns more about his power and the magic of the Loom.

Most LucasArts adventures, like Loom, ensure the gameplay doesn't constantly frustrate you by dying all the time. In Loom nothing can actually 'kill' you as such, and you never find yourself in a situation from which you can't escape – all the answers are somewhere nearby.

Loom is definitely something rather different than your usual adventures and the magical theme works well. Unfortunately though, the graphics aren't all that spectacular and really do look their age.



Loom provides a different and original idea



For a more fantasy-based adventure Loom will be your thing

LucasArts

INTRODUCTION

US Gold's budget label, Kixx XL, is feeling somewhat generous this year and has put together a couple of collectable selections from the highly respected developers, LucasArts and Delphine.

LucasArts was founded by George Lucas, creator of Steven Spielberg-produced blockbusters such as Star Wars and Indiana Jones, and has become renowned for some of the all-time classic adventure games.

This particular collection houses The Secret of Monkey Island, Loom, Zak McKracken and the Alien Mindbenders, Maniac Mansion and Indiana Jones and the Last Crusade.

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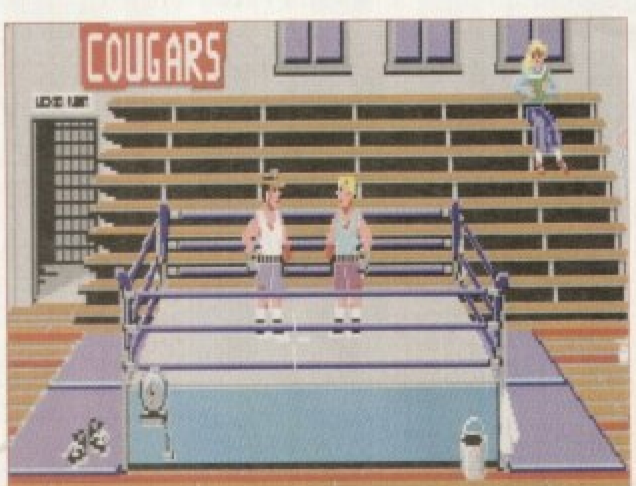
INDIANA JONES AND THE LAST CRUSADE

This rather old film license holds quite a few pleasant surprises and despite its dated graphics, is still fun to play. As you can probably guess, it follows the exploits of Indiana Jones and his quest to find the Holy Grail.

Throughout most of the game you can follow the course that Indy took in the actual movie, or find other alternatives to complete the mission.

The game is your usual point 'n' click adventure but you can combine this with an arcade-style gameplay which adds variety – so rather than outsmarting someone you are given the option to throw a punch and start a fight instead, which gives your mind a break from the puzzling.

If you can forgive the rather basic graphics and take a closer look at this title you will find it a very entertaining adventure.



Forgive the basic look of the game and you'll find an intriguing adventure

THE SECRET OF MONKEY ISLAND

Probably one of the most popular adventures ever, Monkey Island set new standards in adventure gaming and has been the title that many adventures have aspired to.

You play the part of Guybrush Threepwood who has the strange ambition in life to become a swashbuckling pirate. He travels to the Island Of Melee in the hope of fulfilling his ambition, and must complete The Three Trials to prove he is worthy of becoming a Pirate. Once completed, he can then go on to discover the secret of neighbouring Monkey Island.

As with all these games, it is a point 'n' click adventure and by constructing a sentence with the list of verbs and nouns you can easily carry out your actions – this makes the game simple to control.

Monkey Island is also a lot more superior to other adventures in that it has a unique witty style and a quirky sense of humour running throughout. There is a nice mix of gags, both visual and textual, and the repartee between characters works brilliantly.

The graphics are also in a class of their own, even now, with atmospheric scenes ranging from the Pirates bar to the dingy streets, and the slick animated sequences really make this title exceptional. An old classic which doesn't seem to age!



Graphically, Monkey Island still holds it own against some of today's adventures

MANIAC MANSION

Taking up every possible horror cliché in the book and turning it into a game sounds like a recipe for disaster. That is, of course, unless you turn it into a spoof! This is exactly what Maniac Mansion is and a very good game it makes too.

Dr. Fred is the mad scientist. He lives in a mansion with Nurse Edna – a former health care professional whose hobbies would make a sailor blush – Weird Ed – a teenage commando with a hamster fetish – and Dead Cousin Ted. It's not surprising then that strange things start happening, especially when a young Cheerleader has been kidnapped by Dr. Fred and is being held in his basement.

And there you have the perfect ingredients for a manic dose of mayhem which is exactly what you get when you play Maniac Mansion. You take control of a group of college students who want to get in to the house and rescue Sandy. Depending on the team you pick, you'll find the game takes different twists and turns because all the teenagers have their own different skills and talents.

This all works well, with the quirky humour and bizarre puzzles gelling together. Maniac Mansion, like other LucasArts games, contains 'cut-scenes' that are movie-like sequences which further the storyline. This title gives you all sorts of amusing interludes, like the mad professor telling the cheerleader she won't escape, and her tantrums!

Again though, don't expect ANY stunning graphics!



This spoof horror game provides a giggle or two

Collection

Publisher: Kixx XL
Developer: LUCASARTS
Disks: N/A
Price: £29.99
Genre: Adventure
Hard disk install: Yes
Control system: Mouse/KEYBOARD
Supports: A500/600,A1200/2000
Recommended: N/A

ZAK McKRACKEN AND THE ALIEN MINDBENDERS

A strange title and an even stranger game! It takes place in the future when space aliens have built a stupidity machine which is reducing the populations IQ! The fate of earth lies in one chap's hands, Zak McKracken – a reporter not exactly known for his factual stories. So when he breaks this particular story there are few who believe him except for Annie, head of the Society for Ancient Wisdom, and her two friends who have travelled to Mars in their modified van!

You control Zak and the three others in a mission to uncover the aliens and destroy the stupidity machine. To play you can switch between the characters, and must interact with all other weirdos you might come across to pick up clues. If you get stuck you can refer back to Zak's paper – the National Inquisitor – which will give you vital hints to the game.

Zak McKracken is certainly not the most technically advanced of adventure games nor the wittiest, but it is quite fun and provides a challenge.



Zak McKracken uses the familiar LucasArts humorous style

Remember – graphics aren't everything!

OPINION 75%

Any games compilation that offers five games for only £30 is value for money (that's only six quid a game, ya know!). And in this instance, it's not just a bundle of any old stuff! In bringing out a collection by a certain developer, it looks more complete and makes a nice gift idea.

However, a lot of these games have been out for quite a while and it's likely that older games players will have bought these first time round or on their budget release. Newcomers to Amiga gaming should snap up this pack though and see just where the roots of adventure games came from!

The titles are all similar to control and there are a good variety of subjects from aliens to pirates! If modern visuals are top of you're list of priorities then it might not be your bag, but for traditional playability this is definitely worth a look.

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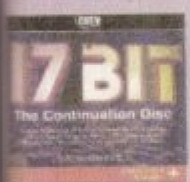
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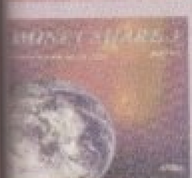
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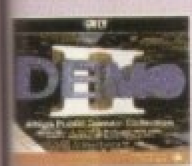
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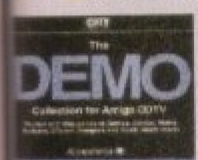
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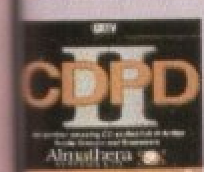
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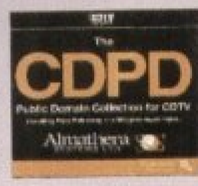
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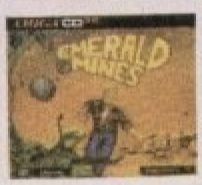
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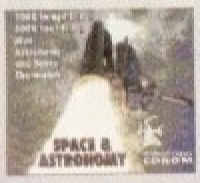
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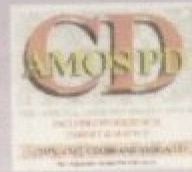
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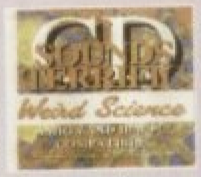
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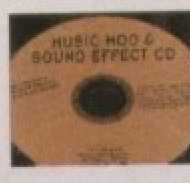
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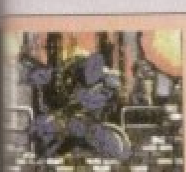
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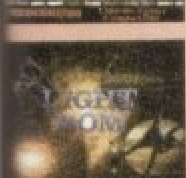
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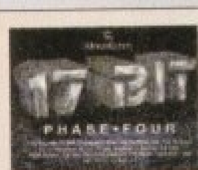
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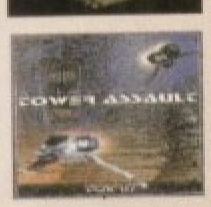
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Jungle

INTRODUCTION

When Desert Strike, already a big hit on the Mega Drive, finally made it across to the Amiga, it was hailed as a highly successful conversion.

A thinly disguised celebration of the Gulf War, it gave gameplayers a chance to whop Saddam Hussein's ass all on their own. Tasteless though this idea may be, there can be no denying that it was successfully implemented thanks to the game's highly addictive gameplay. Now Ocean has tried to improve on the original with a title that takes the battle to the jungle.



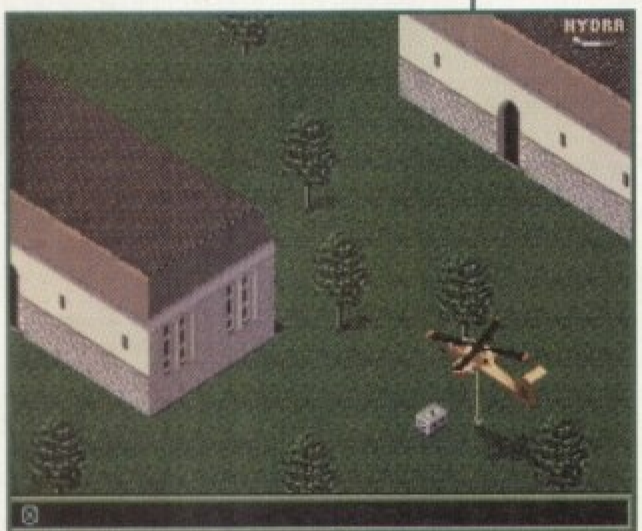
The comanche unleashes a Hydra to dispose of Campervan threat

STORYLINE

Son of Mad Nutter from Iraq has joined forces with the world's No. 1 Evil Drug Baron in a fiendish plot to overthrow law, order and the American way. The Special Forces becomes involved when a satellite registers a nuclear explosion in South America, signalling a new threat from our baddies.

Called into the Whitehouse, your first job is to defend the US capital from terrorist attacks, collecting military intelligence along the way. However, you soon leave for foreign shores as the conflict takes you around the world in search of the Evil Baron.

There are nine different campaigns to fight your way through, each introduced with an animated briefing screen. Needless to say, it gets tougher and tougher as you progress. Given America's military might it seems a bit unfair that you have to do it all yourself, but that's the life of a hero for you.



Testing the co-pilot's accuracy with the winch



Tanks can bring you down in no time, so strike fast and sure



Never mind the period architecture as you blast the terrorist base

SOUND

There's nothing much new in this department. The background rumbling of the rotor blades as your Comanche swoops into action is convincing, as is the sound of rockets being launched, followed by the resulting explosions.

One to avoid is the metallic clunk; hear that and you know you're out of ammo. It's sod's law that this will probably be at a time when you're staring down a tank's gaping gun barrel, so don't be ashamed to run away.

The music reminds me of Rambo films, being no better or worse than that. Overall the sound does the trick perfectly well, but a few more audio details would have given it an extra lift.

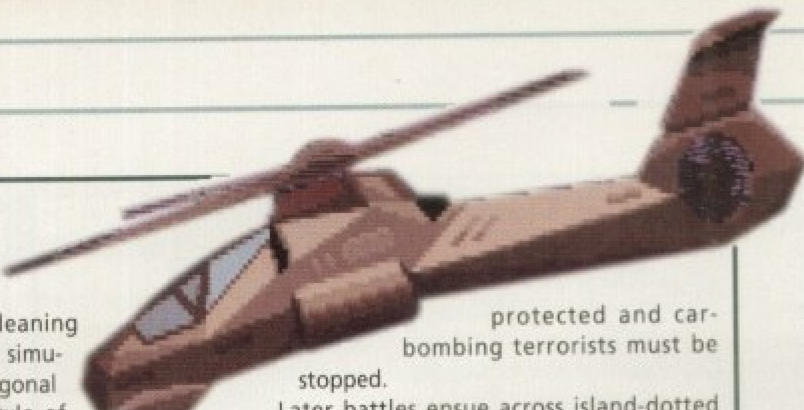
70%

FLASHBACK

Gunships work well as arcade vehicles, not least because they look impressive and carry a varied arsenal. Desert Strike showed that people enjoyed flying a realistic looking machine without worrying about Sim complications.

On the whole, Jungle Strike is an improvement on the original because of its more compelling missions and its interesting locations. Jungle is also preferable to a recent award winner, Zeewolf, which I felt was rather overrated. Not only are Jungle's graphics more impressive and faster scrolling, the overhead view makes for greater playability in my view

- Publisher: Ocean Software
- Developer: Ocean Software
- Disks: 3
- Price: £27.99
- Genre: Shoot-'em-up
- Hard disk install: No
- Control: Joystick
- Supports: All Amigas
- Recommended: 68020



GRAPHICS

Jungle Strike follows its desert-based predecessor in its visual style, with a clear leaning towards arcade action rather than cockpit simulation. Everything is seen from a raised diagonal angle, allowing for a 3D shoot-'em-up style of play.

The detail of the landscapes and vehicles appears to be on the same par as the original, which is no bad thing. Vehicles and buildings are well detailed while your chopper takes centre stage as the most appealing sprite.

Where Jungle Strike really has been improved, however, is the fact that the action takes place in numerous different settings. Deserts, by their nature, are not the most varied of landscapes and the original game was too montonously yellow for my liking.

Though the lush greenery of the jungle is your ultimate target for destruction, you actually start off piloting your Comanche round the streets of Washington DC. Here, instead of targetting the usual power stations and radar sites, embassies must be protected and car-bombing terrorists must be stopped.

Later battles ensue across island-dotted seas and cold barren snowscapes. This mixture of locations keeps the eye interested and provides a good incentive for seeing the next level.

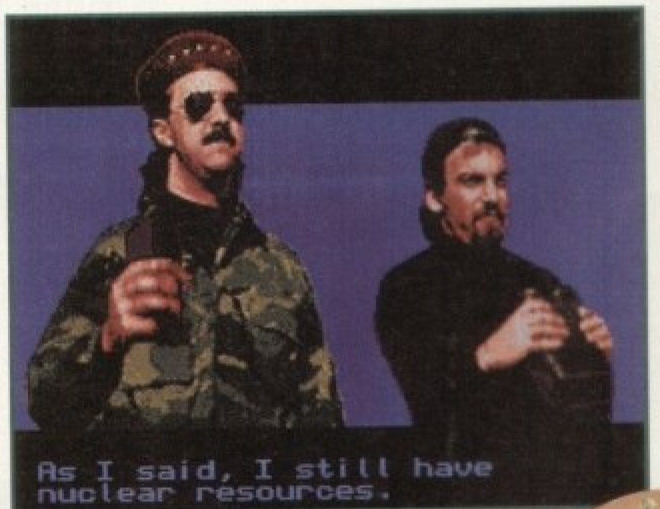
The smoothness of scrolling is another improvement over the original, although it's not as slick as the Mega Drive version. At first I would have preferred it if it had moved faster, but you soon realise that this would only make a hard game harder.

As for the introductory screens, which are important when it comes to hyping the atmosphere, the maker has attempted to recount the story in a cinematic style. Though they are crudely done in comparison to the type of CD-ROM intros available now, these scenes develop the plot for each level, giving added depth to the missions.

86%

Strike

After the Air Cav blitzing of Desert Strike, Ocean brings jingoism to the jungle with the sequel. Gareth Lofthouse takes it for a whirl



The Evil Maniacs – you can almost here their insane laughter

OPINION 85%

Amiga owners have waited a long time for Jungle Strike to be converted, but their patience has been rewarded with a game that will test their arcade and tactical skills to the limit. With its impressive graphics and the superbly designed game system, it could well be the best chopper title yet.

The only criticism I have is that the game's learning curve is too steep at the start. Yes, I hear your cries of "Wimp !" but so much frustration from the outset can be offputting. All the same, it is possible to win your way through in the end, and the satisfaction of completing a campaign is enormous. It's predecessor fused arcade action and strategy in one overwhelmingly addictive game. Jungle Strike has taken that formula and made it better.

AMIGA COMPUTING BRONZE AWARD

PLAYABILITY

Jungle Strike, like its predecessor, is two helicopter games rolled into one. Firstly, it borrows from the Sim style of game, pitting a player's tactical wit against the challenges of missions and long-term campaigns.

At the same time it's a 3D scrolling shoot-'em-up, where realism and cockpit views have been disposed of in favour of fast arcade action. Thankfully, the playing screen is entirely uncluttered by the dials, radars and HUD displays you'd find in, for example, Gunship 2000.

It's a combination that works extremely well. On their own, Sims can be too realistic, while arcade blasting can get repetetive. Jungle Strike manages to keep the best elements of both.

When it comes to the actual missions, I found this game far more interesting than Desert Strike thanks to much more variety and a more structured approach.

Protecting Washington from terrorist attacks, for example, makes a novel change from the usual military conflict, and as you progress through the missions you uncover more and more information about the nature of the threat.

Far from the repetitious seek and destroy tasks that spoil some Sims, missions in Jungle are imaginative. In one you must give airborne cover to the president's motorcade, while in another you must destroy suicidal car bombers before they reach their target

COMPLEX

It has to be said that this game is very tough from the word go, and I would have preferred a gentler introduction in the early phases. Even in Washington, for example, you have to make the most of every last drop of fuel just to stay airborne.

Each campaign takes a fair bit of flying time to complete, and if you screw up either by dying or failing in a mission then you're sent right back to the beginning. Maybe it's just sour grapes on my part for not being a good enough player, but I became sick to death of the message "Return to Base" signalling the end of my career.

The following is another example of how tough it's become: In Desert Strike you used to be able to outmanoeuvre tanks' turrets if you were fast enough, but in Jungle they track your chopper relentlessly. This sort of challenge means that only the arcade hotshots among you are going to complete the game without tearing your hair out.

Rise of the

A cheeky new contender for the beat-'em-up crown has arrived. Challenging the likes of Mortal Kombat 2, Body Blows and Street Fighter 2, Rise of the Robots has many unique selling points over its rivals. For one, it's music has been done by former Queen member and guitar legend, Brian May.

For another, it has fully rendered 3D graphics, the first-ever fully morphing character in a game and, to top it all, a publicity campaign that's extensive to say the least!

And I'm sure there are very few of you left that haven't seen all the publicity and hype surrounding this game. Television ads, billboards and a particularly memorable ad in Viz magazine are just some of the ways in which this title has been bombarded to the public. And now it's here....but is it any good?

INTRODUCTION


The Supervisor morphs into different shapes and really does look spectacular


The graphically brilliant introduction sequence provides a great start to the game

FLASHBACK

Well, it's not Mortal Kombat, is it? And I'm a bit of a traditionalist where beat-'em-ups are concerned – the more blood the better! This didn't have the obligatory guts and gore flying everywhere, which for some will make a nice change, but it didn't give you the satisfaction you would expect after a fight. In fact, it failed to generate as much excitement as other beat-'em-ups can.

Due to programming restrictions, you don't have as much freedom to pit all the fighters against each other. Most of the robots are just too large and would take up too much memory to have them fighting each other, so you must always have one of the opponents as the Cyborg. There aren't as many fighters as you might expect either, with only seven in total, so the game's longevity is questionable.

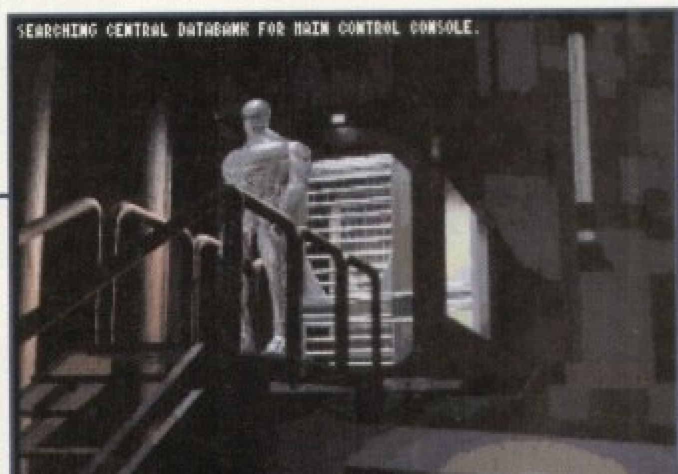
The actual speed of the game seems slower than other beat-'em-ups too, even when you take off the shadows and screen shake. Graphically though, Rise of the Robots is a totally new concept and provides a nice variation on the usual approach.

STORYLINE

With a name like 'Rise of the Robots' it'll come as no surprise to find that this is set in the future. A super-tech society, in fact, which is highly industrialised and where the population inhabit huge city-states. Because of pollution, things like water, food and air have to be manufactured. Yes, I know it's all beginning to portray the usual 'dismal city in the future' image, but it does create a good atmosphere for the game.

Robots are used as servants and are manufactured by a huge corporation, Electrocorp, and this is where all the trouble starts! The plant is entirely run by the robots, from the industrial droids to the polymorphic supervisor, but (and as inevitably happens with computers) they go wrong! An Ego-Virus infects the supervisor, turning her in to a psychopath, and she goes through the factory reprogramming the workers.

You are a human-based Cyborg and must go to the Electrocorp to stop her.



A high-tech storyline sets up the game well



A lot of attention has gone in to making the robots behave realistically


In the training mode you can be any of the other robots

SOUND

Publicity Stunt, no. 2: get a famous rock star to provide the music. In this case, Brian May, but to be honest it could be anyone from the snippet you hear. An anonymous guitar sound screeches along during the game selection, but that's about all you get.

The actual in-game sound effects aren't all that spectacular either. There is a good metal-on-metal sound when the robots land punches on each other, but there is a lack of atmospheric tunes during the fights which could have added some tension.

What do work well though are the actual moves of the characters. For example, when they extend their arms to punch you hear the metal screeching, providing authenticity.

40%

Publisher: Time Warner Unteractive
Developer: Mirage
Disks: 10 for 500+ version, 13 for 1200
Price: 1200-£42.99; 500+-£39.99; CD32-£34.99
Genre: Beat'-em-up
Hard disk install: Yes
Control system: Joystick/joypad
Supports: A500+/A1200/CD32
Recommended: N/A

GRAPHICS

The graphics are nothing short of stunning to say the least. The robots have been fully rendered, creating an awesome impression of high-tech 3D robots.

The backdrops show the futuristic environment of the factory brilliantly. The depth of the room looks realistic, with the foreground actually looking like the foreground and the back looking like the back – you can almost feel as if another robot might actually walk around the corner!

Before each fight takes place, you are treated to cinematic sequences which really do add to the game. Each of the robots walks in to the scene, giving you an introduction to its character. For example, they show some of the moves they can do.

A lot of work has gone in to making the robots as menacing as possible, and with each one completely different in design they really are impressive – from the metallic blue Cyborg with his more agile moves to the heavy Loader Droid with mechanical joints and clumsy disposition. This is re-enforced with the screenshake, i.e. when the robots are crashing around the ground shakes accordingly, giving the impression of their heaviness. Finally, the use of shadows also helps to create a realistic environment.

90%



> There are not fifty ways of fighting, there's only one, and that's to win.
>
> *Andre Malraux*

Robots

Tina Hackett used to be a shy, retiring girl....then she played beat-'em-ups and has never been the same since. This month she's been let loose on Mirage's Rise of the Robots

OPINION

50%

While on the surface everything looks the business, the playability is definitely not up to the same standard. It's not entirely bad by any means, but when you've played Mortal Kombat 2 only minutes before, you really do feel like something is missing from Rise.

There are a good range of moves though, so you can put together a nice fighting sequence, and the characters have an array of special moves like 'double fork-slash' or 'Catapult Spins' – unfortunately, on some characters it's too easy just to use the same move on them though. Visually, some of the actions don't work, and at best they look unspectacular, at worst they make the robots look like ballet dancers on steroids.

Rise of the Robots is a fantastic concept, but somehow it just doesn't come across as well as you might expect. It does have its worthwhile points, and with a fully morphing character (which really does look spectacular) and brilliantly rendered graphics it will sell well. It is also original, which counts for a lot these days.

The one thing many will like about Rise is that it doesn't have all the gratuitous violence in it, so for those who want a change from the usual blood and gore, this might be worth a look – especially if you want to show off the kind of graphics available for the Amiga. However, it's certainly not as playable as other beat'-em-up titles on the market and the asking price is a little on the steep side. Without the fancy graphics it's just a very average game.

You should also bear in mind that the game comes on a massive 10 disks for the A500+ version and 13 for the A1200. Fortunately, it is installable, so it shouldn't be a problem if you have a hard disk or a second drive.

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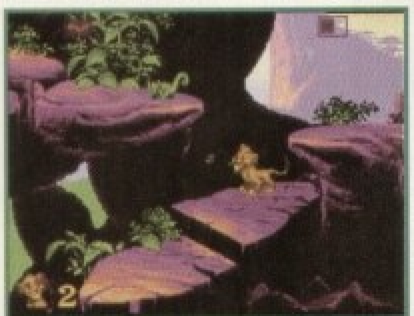


INTRODUCTION

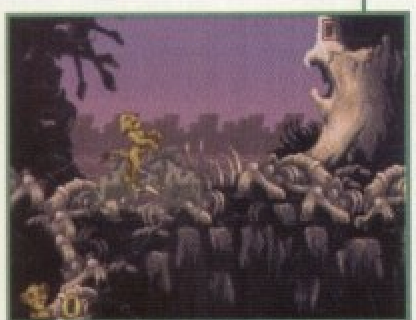
Last year we were somewhat spoilt with the superb Disney films that hit the cinema, namely Aladdin and The Lion King. And Disney is big business and that ultimately means big bucks. Not content to rake it in at the Box Office, we are then bombarded with all the other merchandise that goes with it. Tee shirts, cuddly toys, the soundtrack, and now the most modern of marketing ideas, the computer game license.

But if Virgin/Disney's last game, Aladdin, was anything to go by then this isn't exactly a bad thing and now the license from their last film, The Lion King has been turned into a game. But is it really the cat's whiskers, the king of the jungle, a roaring success?

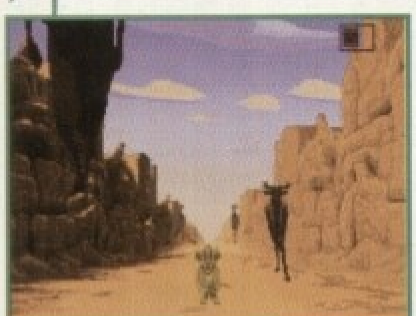
The Lion



Simba, the lion cub, is as endearing as he is in the film



Other characters from the film, such as the evil hyenas, can be found in the game



The 'stampeding buffalo' scene gives variety to the game – use your judgement to avoid their hooves



Animation is first class, especially on the main character

STORYLINE

I went to see The Lion King (for research purposes only, you understand) so I can now relate the story for you. Simba the lion cub is forced into the wilderness by his evil uncle Scar. Y'see Scar is after the throne and by killing off Simba's Father in a nasty 'stampeding Wildebeest' accident and by convincing Simba it was all his fault (thus forcing him to disappear with his tail between his legs), he can then be King.

Simba is alone in the jungle until he comes across Timon the meerkat and Pumbaa the warthog. A few songs and a couple of comical escapades later, he sees his first love who he left behind with the rest of the pride. She tells him how nasty Scar is, how he's wreaked havoc with the food supply and all the other evil things that evil characters tend to do.

By this time, Simba has grown into a lion and is ready to go back, defeat Scar and save the day. And surprise, surprise, he does and they all live happily ever after. Cue: soppy music, roll credits.

SOUND

There has been quite a fuss made over the soundtrack to The Lion King, what with Elton John's "The Circle of Life" reaching the charts and The Lion King album also meeting with similar success.

So it's hardly surprising when you see that the actual musical score from the film is used in the game. This works well and fits in with the scenes and style of game-play, reinforcing the rich atmosphere.

Other sound effects are the usual yelps when a character is hurt, or the stamping of hooves, and a rather cute mewing when Simba tries to roar.

74%



Roaring at enemies are a good way of freezing them



Backdrops are detailed and convey the setting of the African jungle

Grab your toupees, break into a rousing chorus of The Circle of Life and go 'Aah!' at the cute little lions. Yes, it's The Lion King in game form. Tina Hackett catches a strong strain of jungle fever...

King

GRAPHICS



As you might expect, a Virgin/Disney collaboration results in a visually spectacular game. If you've already seen the Aladdin game then you know what you can expect.

The animation is very slick and is up to the same quality as the film. The character of Simba has been captured beautifully from when he was the cute, vulnerable cub to the point where he reaches adulthood and becomes the majestic king of the jungle. His mannerisms, such as his facial expressions and kitten-like actions, are conveyed brilliantly, making the cub as endearing as he was in the film.

The other characters, such as the manic hyenas, also come across well through the smooth animation and immense attention to detail.

Backdrops are also impressive, evoking the wonder of the African Jungle. There is even a scene taken from the film where Simba is being chased through a canyon by a herd of stampeding wildebeest which could easily be swapped with it's celluloid counterpart without anyone raising an eyebrow.

80%

FLASHBACK

Being a Disney/Virgin game it is obviously going to be compared to their other recent release, Aladdin. Both have particularly stunning graphics and both have their merits. Where they differ is with the main sprite – in Aladdin you control the more usual two-legged character whereas now it's a four-legged one. This all sounds rather obvious but it actually leads to vastly differing styles of gameplay. At first I found it rather hard to control the lion, although it did make a pleasant change once you'd grasped the basics.

From a more personal opinion, I preferred the Aladdin film with its cheeky wit rather than the sentimentality of The Lion King, and these elements come across in the game. While this, in itself, is not a criticism, it will have an affect on the audience who play the game.



The sprite changes from the cute cub to the majestic lion



Baddies vary from Chameleons to Monkeys, and can be seen off in various ways



There are the usual platform obstacles such as volcanic pits and drips of lava that you must avoid

Publisher: Virgin
Developer: Dave Semmens, In-house
Disks: 2
Price: £29.99
Genre: Platformer
Hard disk install: No
Control: Joystick
Supports: A1200
Recommended: 68020

OPINION

81%

AMIGA GOLD AWARD

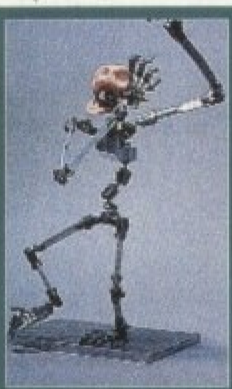
Virgin has done a most admirable job of recreating the film in game form. The magnificent graphics portray the scenes from the film brilliantly, and you are instantly whisked back to some of the very memorable parts of the film. The elephant graveyard, for example, has the same atmospheric song, the evil hyena characters, and the fantastic graphics.

The animation of the characters is also exceptional and Simba moves as fluidly as in the cartoon. As with Aladdin, their character traits come across well. For instance, Simba is shown as a young, mischievous cub, playing with the butterflies and curling up to roll down the banks. It is also a nice touch that you can play Timon and Pumbaa in the bonus games.

A criticism of Aladdin was that it was perhaps too easy. The Lion King, on the other hand, isn't, and at first it did seem rather tricky to control the sprite. Because of the design of the sprite, you also have quite a limited choice of attack. Some of the enemies can be growled at to eliminate them, or some can be pounced on – but a weapon you could throw would have helped considerably.

The character is given a beautiful range of moves though, such as the graceful leaping across the rocks or climbing up on ledges – they look realistic and move like you'd expect a lion too.

It is a fantastic looking game by anyone's standards. The gameplay is the usual platformer action and although there is nothing wrong with this in itself, it won't appeal to everyone. But for platformer fans this is an excellent offering.



The first stage of character creation is to build an armature or skeleton. To allow for greater flexibility, new and improved joints were created just for Primal Rage



A clay model is sculpted for each character and it comes complete with all the muscular detail that will be seen in the final puppet



Once the character has come out of the latex mould, the finishing touches are added. A spot of airbrushing is required to bring the character to 'life'

system analysis



This is almost guaranteed to become the game of 1995. Jonathan Maddock takes a closer look at what went into the creation of Time Warner Interactive's superb and graphically splendid prehistoric beat-'em-up

Rage

Not many of you will be familiar with the name 'Time Warner Interactive', but by the end of 1995 you won't be able to move without hearing about this company. You'll find out why in a minute, but first a bit of background information.

Time Warner Interactive is a relatively new entity created as a result of the recent amalgamation of Atari Games, Tengen and the Time Warner Interactive Group. A subsidiary of Time Warner Inc., the company is a publisher of interactive consumer entertainment products, ranging from games to music and 'edutainment' titles spread across arcade, console and computer formats. Since 1976, Time Warner has held a majority interest in the Atari Games Corporation, a pioneer of the video game industry and developers of over 170 arcade games including revolutionary titles such as Pong and Asteroids. In June of 1994, Atari Games changed its name to Time Warner Interactive after merging with the other Time Warner software companies.

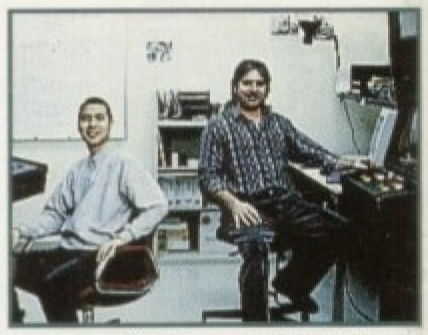
Time Warner Interactive's first foray into the Amiga world was this month's Rise of the Robots, a project in which it teamed up with Mirage. Time Warner Interactive has thus made its first few steps into the Amiga World, but by the end of next year the company will be bounding to the top of the software charts with its conversion of an arcade game that's already being ear-marked as the Mortal Kombat of 1995.

Primal Rage is its name and by all accounts you could find yourself getting crushed in the rush to buy a copy when it arrives on the shelves in late '95. This innovative beat-'em-up is a desperate and bloody fight for survival as dinosaur-like creatures battle to death to rule the new 'Urth.'

What is so fantastic about Primal Rage and the reason why it's already making big waves in the ocean that is the computer games industry is because the game utilises



The Armadon puppet, which contains elements from triceratops, ankylosaurus and stegosaurus, is finally finished



Frank Kaun (left) is responsible for the programming of Primal Rage, while Dennis Harper (right) produced the whole project

From sketch to screen

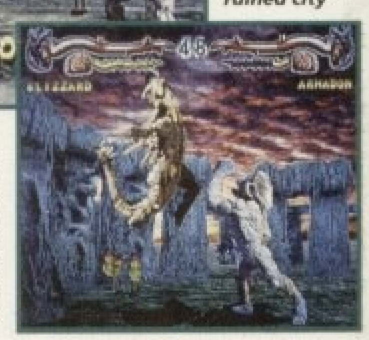
In order to take the flat drawings to fully-posable finished sculptures, Dan Platt took the creature concepts and built clay models, complete right down to the smallest detail. Each character had to have an individually constructed armature, specially designed to offer the flexibility needed for that particular character. Traditional ball-and-socket joints used in movie-model armatures did not allow the required amount of flexibility, so new and improved joints were invented just for the game.

Once the clay model was finished, a plaster mould of the character was created. The finished armature was placed inside, latex was then injected into the mould and this was placed into and baked in a special oven. Once this process was complete, the model was carefully removed from its mould. A fully posable three-dimensional puppet had been created.

In order to make even a single character seem fluid when it makes one move, nearly 100 frames of animation needed to be generated. This was achieved via a progressive series of small movements of the arms, heads, legs and the tail. This process was completed for each of the 70 sequences designed for every character. Incredibly time-consuming when you consider that each creature has over 400 moves in all, but as you can see from the screenshots it was extremely worthwhile.



It's fight night! Armadon gets ready to fight the mighty Blizzard against a backdrop of a ruined city



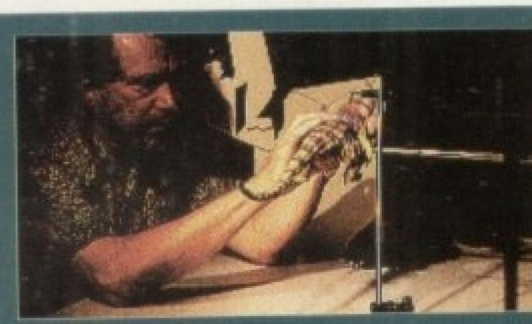
The prehistoric championship of the world moves on to Stonehenge. Blizzard takes up the initiative and smacks Armadon in the head



The addition of a stylish mohawk, glass eyes and moulded teeth brings Blizzard screaming into life!



The finished collection of models in all their glory. Now all that's left to do is some stop-motion animation which, err won't take long!



Pete Kleinow, a Hollywood veteran who has worked on films such as Army of Darkness, puts Sauron through his paces in the stop-motion laboratory

an exclusive new stop-motion animation technique that provides incredibly life-like characters. Players can choose from seven different giant fantasy creatures, including a Tyrannosaurus Rex, a giant ape and a Cobrasaur. Each one boasts a diverse and unique range of fighting moves, special moves and graphic finishing sequences.

CONCEPTION

Dennis Harper, the game's producer, and Jason Leong, lead animator on Primal rage, conceived the idea of a stop-motion dinosaur-fighting game over two years. Originally, the game was just going to be a battle between two ferocious Tyrannosaurus Rex. As soon as they saw how great the animation looked they decided to design some additional characters, each with an individual personality defined by a certain and highly unique fighting style.

Dennis and Jason were sure that the stop-motion process, which had never been attempted in a game on this kind of large scale before, would be the best and perhaps only way of giving the product a life-like quality.

Stop-motion filming involves the painstakingly small movement of a puppet's armature and allows for very detailed sequences of frame-to-frame character movements. A greater 3D effect was possible because the puppets are fully posable and have a bigger range of movement than those digitised human characters which are used in most games.

All of the individual parts of the model (arms, neck, legs and tail) are moved separately, frame by frame. This gives the impression that the characters are living and always changing and moving from one instant to the next.

For example, during the 'ready' sequence for the character called Vertigo, the head bobs and weaves, the tail moves as if it were a snake, the arms move and its fists clench. These effects, combined with the rich colouring of the puppet, ensure that the characters appear to be living, breathing creatures.

The Primal Rage production team comprised 30 individuals and was organised more like a Hollywood film crew than a typical bunch of programmers and developers. In fact, top Hollywood talent was recruited in order to ensure the quality of the new stop-motion approach.

Pete Kleinow, a veteran at the stop-motion animation technique who has previously worked on films such as Army of Darkness, was brought in to set up and direct the new stop-motion studio. Dan Platt, who has made a career out of animating movie monsters, was brought in for his animation and model-building expertise and designed both the sculptures and their posable armatures. In addition to these two special effects experts, nearly a dozen animators were put in charge of the numerous graphic requirements.



Jason Leong, takes a short break and admires all the amazing 'fantasy' dinosaur images he created for Primal Rage



Cameron Petty, game designer, selects animation frames that will eventually make the character motion seem fluid and lifelike

hard!

DESIGNING

Before any of the stop-motion work could progress, the characters had to be designed and re-designed until the team was happy with the final result. One of the problems encountered was the fact that most dinosaurs walked on four legs and in a game they would be rather slow and not very interesting. Rather than limit the game to a certain type of creature, Jason Leong invented a new set of fantasy characters.

The new characters combine various elements taken from several different dinosaurs. The character Armadon is made up from elements taken from triceratops, ankylosaurus and stegosaurus; Vertigo is part cobra and part effraasia; Talon is mostly deinonychus with the striping and vocals of a tiger and the two giant apes, Blizzard and Chaos, both have outrageous wild hair with personalities to match.

While half of the development crew were constructing the puppets, game designer Cameron Petty laid out the 'move matrix' – a plan which showed each character's actions. Many different types of moves had to be considered such as punches, reactions after being struck by the other character, death sequences, victory sequences and 'ready' poses that a character adopts between moves.

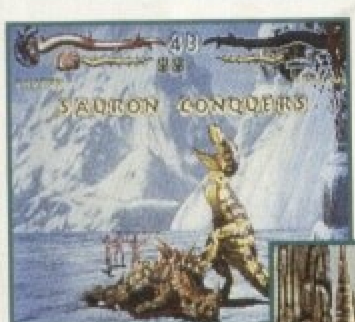
Cameron was also responsible for the creation of the character storylines and designed many of the features that add depth to the game. The game does contain hidden items, often the result of a team joke. Some hidden items only occur at certain times, or only after players perform a set of particular moves or reach a certain level in the game.

Just because the graphics and sound are amazing, that doesn't mean to say that the developers have skipped past the old adage of gameplay. The traditional one-player game designs have been revised. Rather than fighting a special boss to complete the one-player game, players must take the 'Primal Challenge', a fast-paced grudge match pitting the player up against every foe.

For players to master this mode they must be extremely good at the game. They must know the moves needed to beat a superb computer opponent, but must also be capable of executing hits and combinations with precision timing.

Primal Rage is not by any means a 'normal' beat-'em-up and next year it's going to be absolutely massive. The predicted release date is around September time, but I'm sure we'll have some more information on this prehistoric beat-'em-up before too long.

Get that joystick warmed up, build up some caveman courage and get ready to make a Primal Rage!



Poor Armadon has taken a fair old beating and lies in a pool of his own blood. Meanwhile, Sauron the T-Rex celebrates his victory



The two magnificent creatures line up, ready to kick seven shades out of each other



Primal Rage could well become the bloodiest game ever to appear on the Amiga, as demonstrated by the gore-filled screenshot

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Europress Software is Britain's leading producer of educational & productivity programs for the Amiga.

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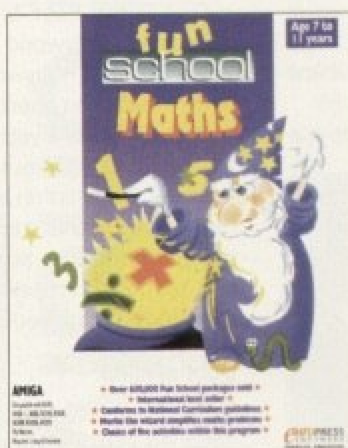
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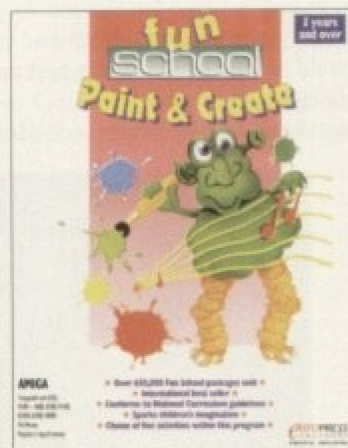
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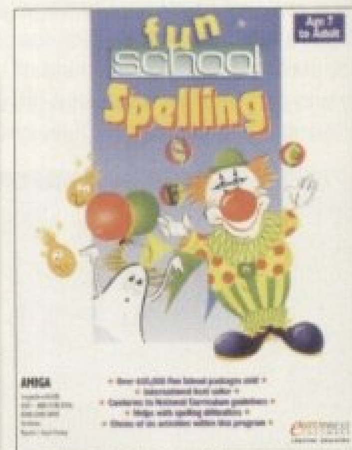
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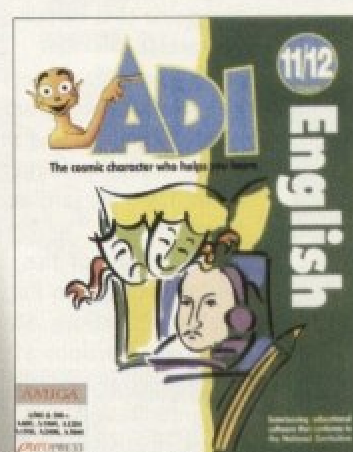
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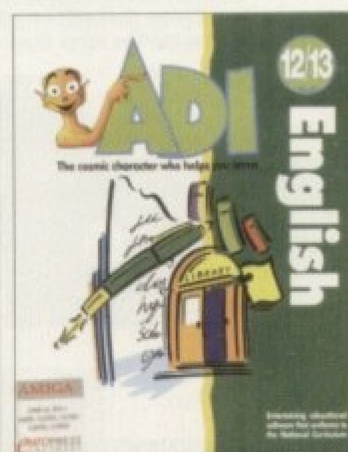
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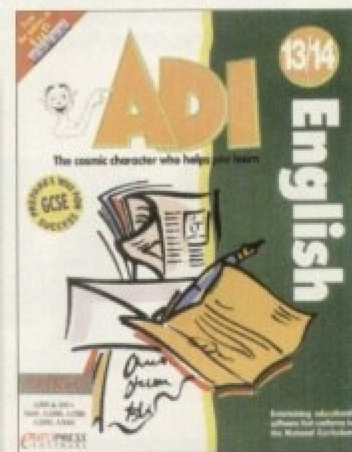
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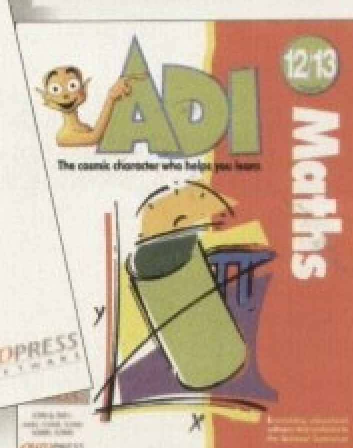
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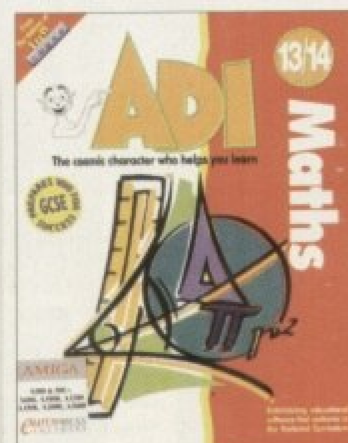
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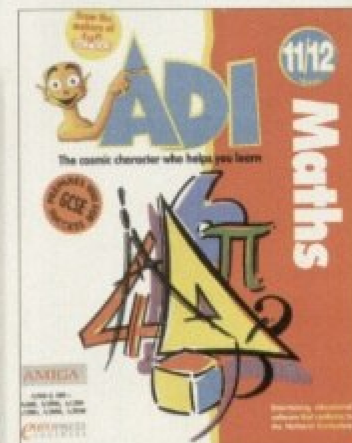
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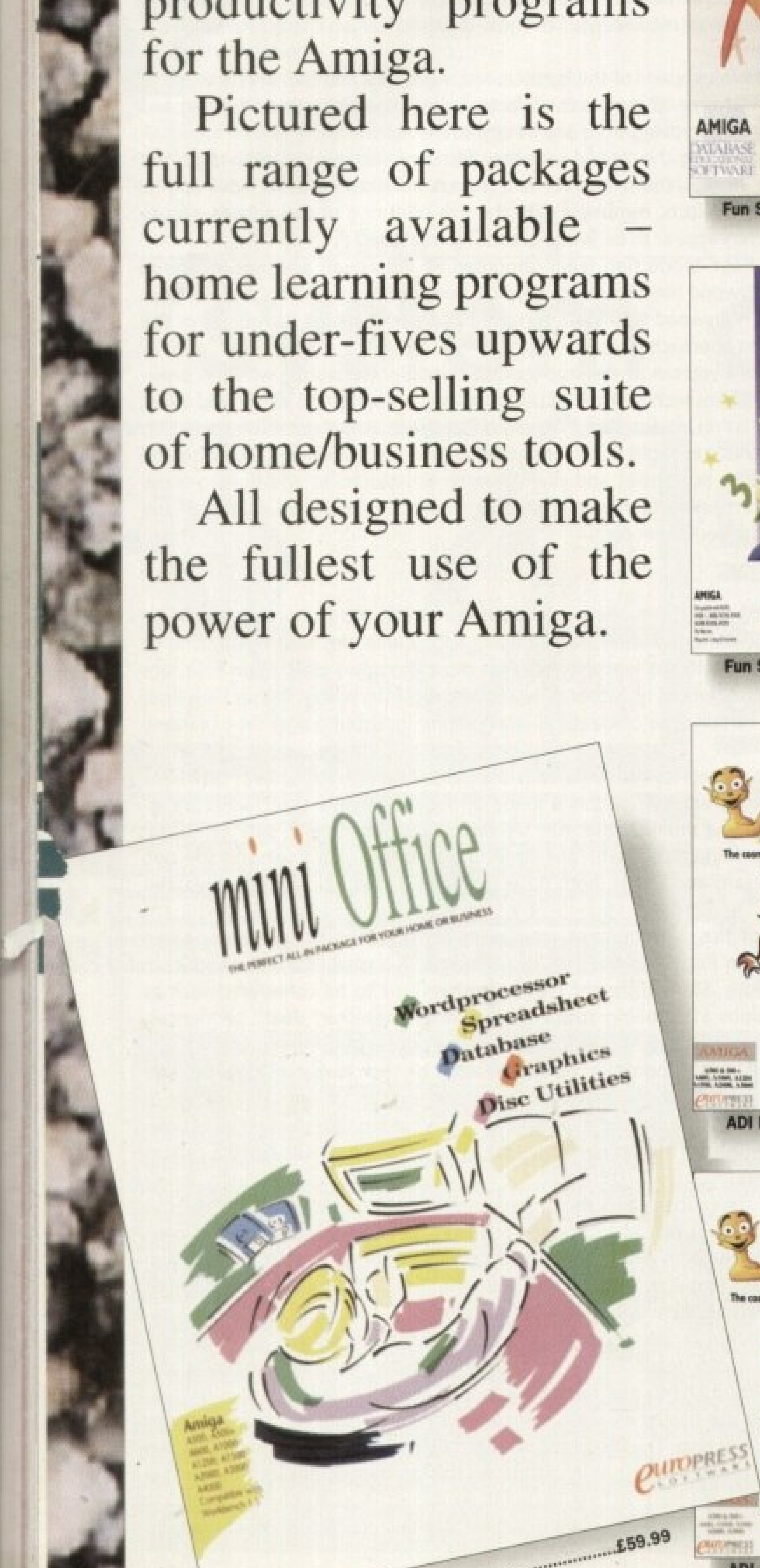
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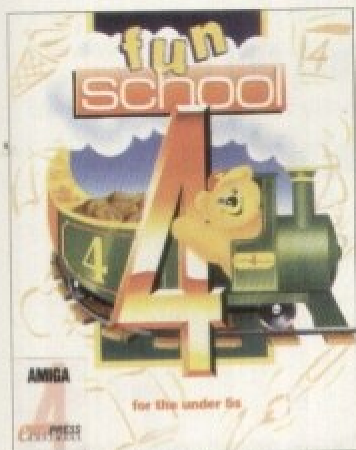


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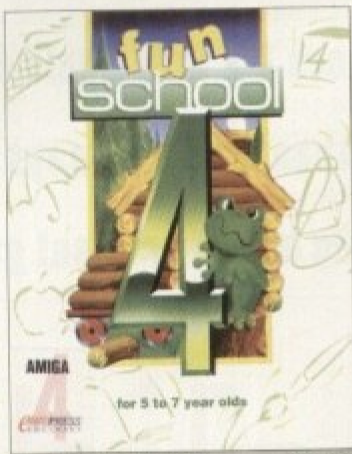


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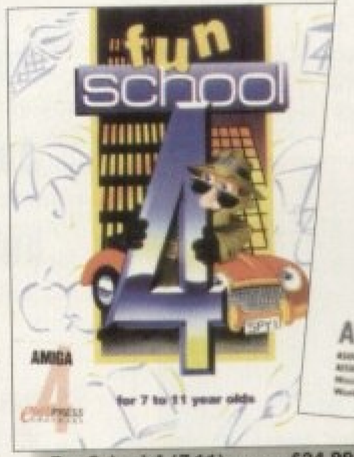
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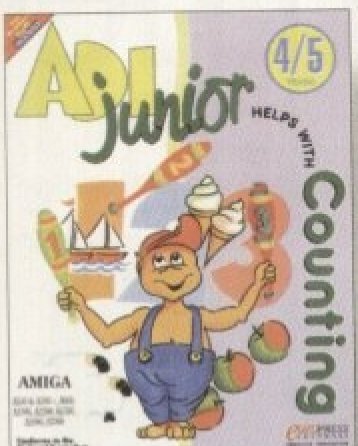
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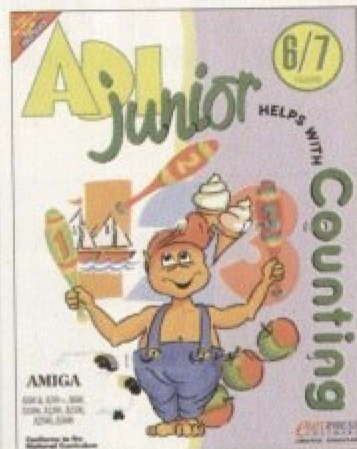
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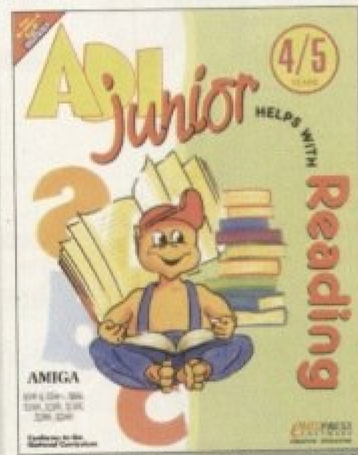
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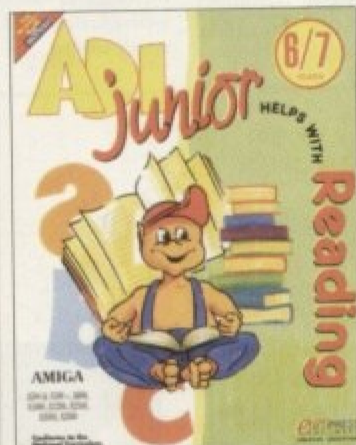
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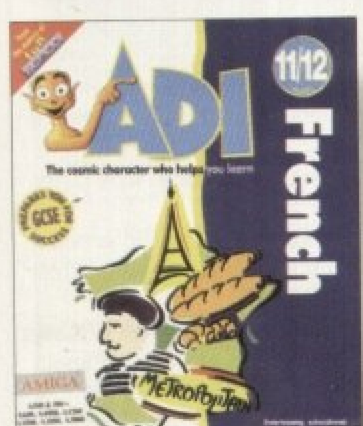
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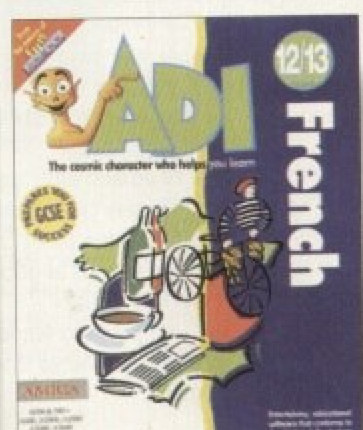
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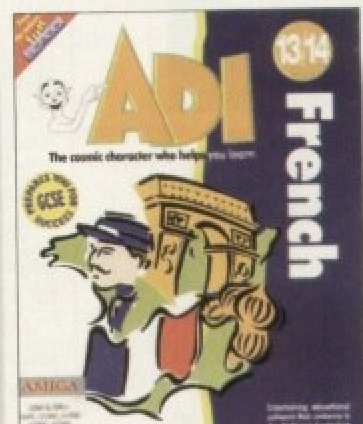
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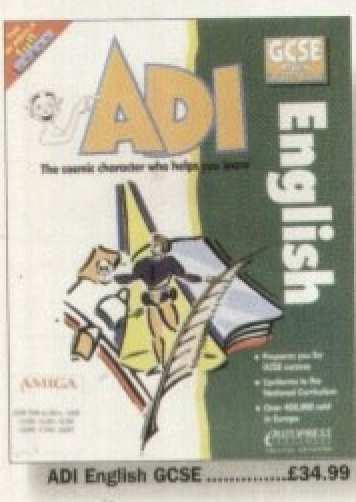
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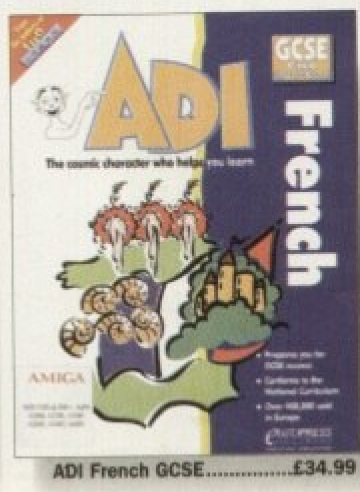
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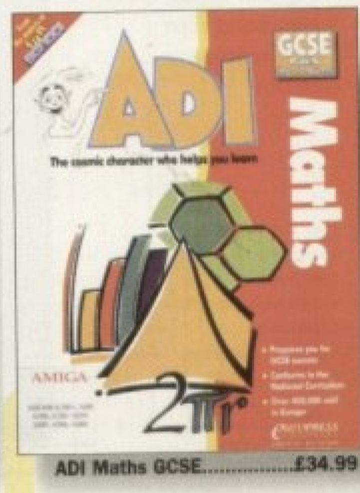
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AMC 2/95

If you want to give your games collection a boost, then this compiled offering from French supremos Delphine and Brummie wonders US Gold could do just the job. Jonathan Maddock says bonjour to a bulging box of brilliant games

Delphine

FUTURE WARS

This, if memory serves me correctly, was the first Delphine graphic adventure and the first to use the Cinematique system. This revolutionary new system meant that adventure games were no longer hindered by the laborious task of typing in all your commands. Instead, all that was required was a few short stabs on the mouse buttons and you were transported into having a far more interactive and enjoyable experience.

The plot behind Future Wars is set in the 43rd century and Earth is under attack from a deadly alien race. The planet is protected by an impenetrable SDI defence system, so everybody should be safe, but the aliens have been clever enough to build themselves a time machine. They plan to travel back in time to sabotage the SDI system before it's even been built.

Future Wars features some quite outstanding graphics, especially when you consider just how small the sprites are, but this graphic scale can sometimes be a disadvantage. Some of the items you'll need to progress in the game are too small and you have to spend time searching around the various rooms with a fine tooth comb.

That comment aside, Future Wars is a damn fine game. Seeing that this was Delphine's first adventure, it makes perfect sense to include it in this classic collection.



Your adventure starts off outside an office block cleaning windows. A quick examination of the scaffolding could prove useful

OPERATION STEALTH

Following on from its debut, Future Wars, Delphine continued to dabble in the graphic adventure genre. This time it constructed a game based around the trials and tribulations of a secret agent, à la James Bond.

John Glames is the hero in Operation Stealth and has as much sophistication and flair as Messers Connery and Moore. John's one weakness, as in the 007 films, is his attraction to the opposite sex.

His mission is to recover the new super-secret stealth fighter. A power-crazed Paraguayan, General Manigua, and the Russians are the most likely suspects, so John dons his tuxedo and sets off on his quest. To help him he has a briefcase packed full of top-notch secret agent goodies. A passport forger, a cable-watch, a cutting pen and a packet of rocket launching cigarettes (Boom & H) are at his disposal.

For this adventure, Delphine improved the graphics considerably. The new larger sprites really work well and enable you to see the characters a lot better. Everything about the game oozes class. Even the sound effects add to the atmosphere and seem as though they've been developed properly rather than just added as an after-thought.

Operation Stealth is packed full of girls, guns, snappy dressing and special gadgets. For Amiga James Bond fans everywhere, this adventure represents your wildest dreams come true.



At passport control and Glames finds himself in the bathroom. A forged passport is required, maybe one of his secret gadgets could come in handy



"Mr Bond, err, I mean Mr Glames, I've been expecting you!" Operation Stealth, the best Christmas 007 movie that never was and never will be

CRUISE FOR A CORPSE

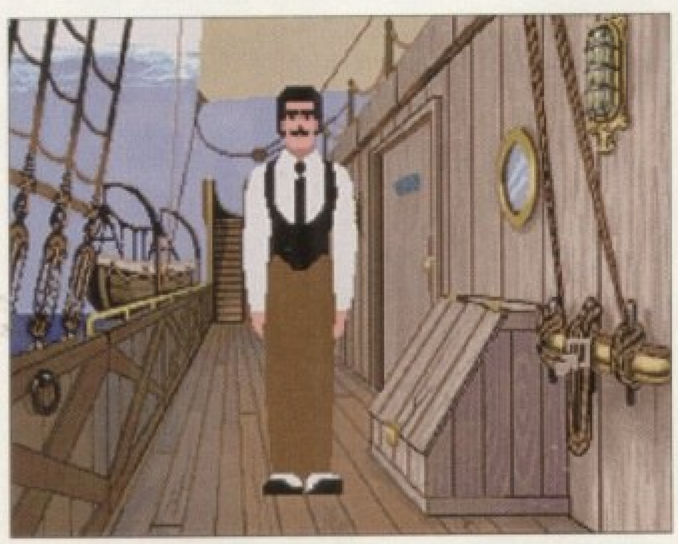
Delphine's next foray into the adventure games world was radically different from what they had created before. Although the graphics in Future Wars and Operation Stealth were brilliant, the ones to be found in this adventure were far better.

An innovative 3D aspect was introduced and this created some depth to the two-dimensional pictures that appeared on the screen. Cruise for a Corpse is a high seas murder mystery,very much in the style of Agatha Christie. You play the part of Inspector Raoul Dussentier who has been invited on a dream cruise in the Mediterranean. Before Raoul can even sit down in his deck chair, a crime is committed and his investigative services are called upon. The crime in question is murder.

The host of the cruise is killed and with a gaggle of suspects that all look guilty, you, as Raoul, have not got an easy task ahead of you.

The adventure features the same point 'n' click interface as used in previous Delphine games and looks and sounds as good, but for some bizarre reason Cruise for a Corpse just doesn't work as well.

Maybe it's just me, but you seem to wander around for ages without actually solving anything. This is a real shame as Cruise performs superbly at just about every other aspect of the game.



The graphics are exquisite and this new 3D aspect gives the game more depth than Delphine's previous efforts

ANOTHER WORLD

At this point in Amiga games history, Delphine was obviously beginning to get tired of the whole point 'n' click adventure scenario and decided to do something a little different.

Another World is a definite mixture of adventure and full-blooded arcade action. You are Les, a scientist who has a fondness for sub-atomic particles. A small lightning disaster later and Les finds himself transported into another dimension.

Following an encounter with a bunch of evil enslaving aliens, our ginger-haired hero must escape back home with only an alien chum and a bloomin' big gun to help him.

The game is controlled via the joystick rather than the mouse, but is still packed full of great puzzles and problems for your adventuring brain to solve.

The graphics are yet another step above Delphine's previous releases. The animation is incredible and you get the feeling that you're taking part in a motion picture blockbuster.

Another World is highly playable and very addictive. You will play and play until you eventually complete the whole caboodle, but then you'll wish that you hadn't so you could play it a bit more.

I heartily recommend Another World to everybody. If you haven't got this in your games collection then this pack is definitely for you.



Les finds himself in Another World with a vicious alien beastie hot on his heels, and I hear the local aren't too friendly

Classic Collection

FLASHBACK



I declare Flashback the greatest game on the planet. Anyone who disagrees can have me a fight anytime, anywhere

For some unexplainable reason, I missed out on playing this game when it first arrived in the office, even though we raved about it! This compilation review allowed me to play Delphine's Flashback for the first time and I have to hold up my hand and say that I was completely amazed.

Put it this way. I got more enjoyment out of this adventure than anything else I played in 1994.

Building on the success of Another World, this game follows along the same sort of style, only a lot more violent. The character is a hybrid of various people. One minute you feel like James Bond and then Indiana Jones, then the minute he pulls out his gun you turn into Mr White out of Reservoir Dogs and in the more hectic moments you could well become Travis Bickle at the end of Taxi Driver.

All those film characters come to mind simply because Flashback is more a cinematic experience than a mere computer game. Words can't do justice to just how good the graphics and animation are.

In the playability and addiction stakes, you can't go far wrong. Flashback is the game I dream about and I can only thump myself in the face every morning for missing it first time around. I would buy this compilation pack for this game alone and I can't recommend it more highly than that.



Packed full of gunfights and acrobatics, Flashback not only looks and sounds gorgeous, but is also as playable and as addictive as hell itself

Publisher: Kixx
Developer: Delphine
Disks: 16
Price: £29.99
Genre: Arcade/Adventure
Hard disk install: Yes
Control system: Joystick/mouse/keys
Supports: A500/600,A1200/4000
Recommended: 68000

OPINION 91%

If you like Delphine games, god knows I do, then I would advise every Amiga owner to buy this pack. Obviously, most of you will have most of, maybe even all of these games, but for those who are bereft of these wonderful pieces of software, I suggest you buy it as soon as you can before the pack sells out entirely.

Considering the type of games that are in this compilation, I advise a hard-drive to get the most out of the games, but it is by no means essential.

For just £30 this pack will, literally, provide months and months of entertainment.

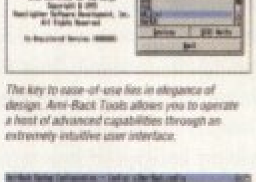


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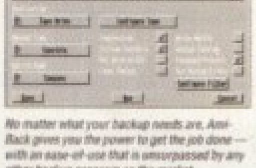
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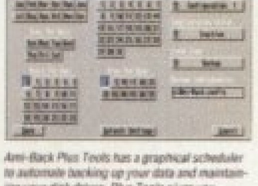
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- Appends multiple backups to single and multiple tapes.
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- Compresses data during backup with no speed loss.
- Backup to a single AmigaDOS file or device.
- Performs Image backups of any partition.
- Supports multiple-device backups.
  - Lets you replace bad media during backups, and skips missing disks during restores.

Ami-Back Tools

- Optimizes disks by file, directory, and free space.
- Lets you recover the file system even if hard disk operation is interrupted making it the safest program available!
- Finds and fixes disk structure problems that prevent normal operations.
- Recovers deleted files in place and files lost through Quick Format of disk.
- Saves and restores RDB information.
- Recovers data by backing it up to floppies or another AmigaDOS filesystem.
- Wipes all information from a disk, preventing recovery.
- Performs CRC of all files and stores CRC database.
- Compares filesystem with CRC database to check for corrupted files due to viruses, etc.
- Optional caching mode for maximum read/write speed.

Ami-Sched II

- Schedules events to examine, repair, and backup your disks while you sleep.
- Supports any number of events over any time frame.

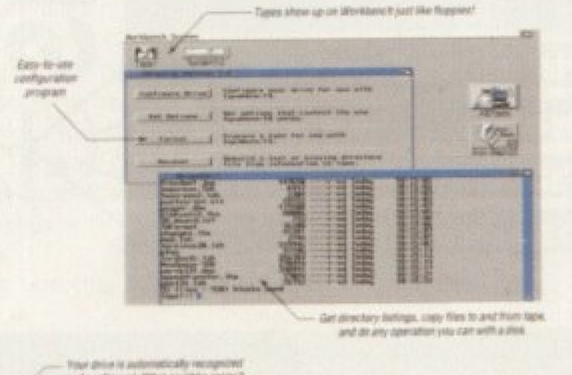
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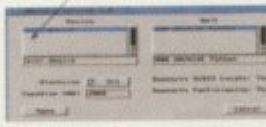
- Password protection, Online help, and Arexx support included.
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- And much, much more!

FILESYSTEM

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Beauty in

system analysis



When Mirage started designing Rise of the Robots two years ago, they aimed to take the art of in-game graphics to a new level. Gareth Lofthouse reports on how they created a new cinematic look

Sean Griffiths, the man who conceived and designed Rise of the Robots, began the project with high ambitions. Feeling that too many games were visually compromised, he put forward a plan to create the first game ever to incorporate film quality, controllable 3D graphics.

While the game has had a controversial reception, with some reviews (including our own) reflecting disappointment with the actual playability, no-one is disputing that this is one of the most visually stunning releases in the history of computer entertainment.

In fact, it's no overstatement to say that Rise represents a significant step towards the future of the electronic game. Flawed it may be, but its move in the direction of a more cinematic style of entertainment reflects a growing trend towards sophistication in leisure software.

So how are images of such complexity and realism brought to life ? In the case of Rise, it started with the simple but bold idea of creating a fully rendered game. But bringing that idea to fruition required a team combining unusual skills from beyond the realm of game coding, not to mention a lot of ground-breaking experimentation.

The making of a monster

Sean Griffiths (distinguished from another Mirage Sean as SG) had already established his credentials as a designer before the Rise project.

A member of the Bitmap Brothers, he'd been involved in classy hits like Speedball and The Chaos Engine. When he came up with the idea for Rise, however, he decided that 3D rendering packages offered a new potential for computer gaming. To take advantage of the new possibilities, however, the Mirage team had a lot to learn.

MODEL

The robots were designed using 3D Studios on a PC – Lightwave PAL didn't exist at the time. This gave Mirage the chance to build models and animate them with an unprecedented level of realism.

While SG was learning to use the system, he copied a toy robot kit to

Tricks of the trade

Rendering – A mathematical process in which the computer paints a virtual world on the basis of the information provided by the designer.

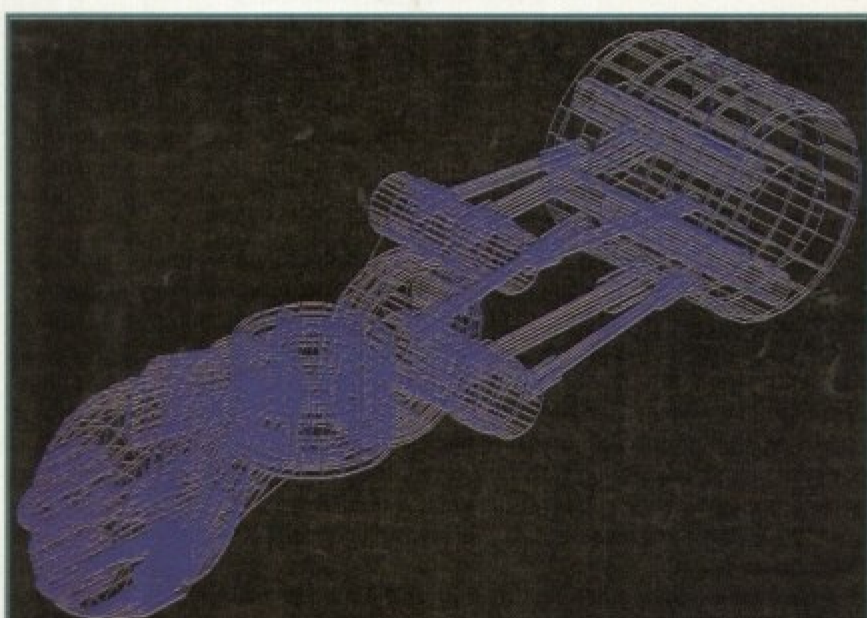
Ray Tracing – This determines the visibility of surfaces by tracing imaginary rays of light from the viewer's eye to objects in the scene.

Gourard Shading – This has been a bit of a buzz term in gaming circles. Named after the mathematician who invented it, it's a technique to smooth over the blocky polygons on a model's surface.

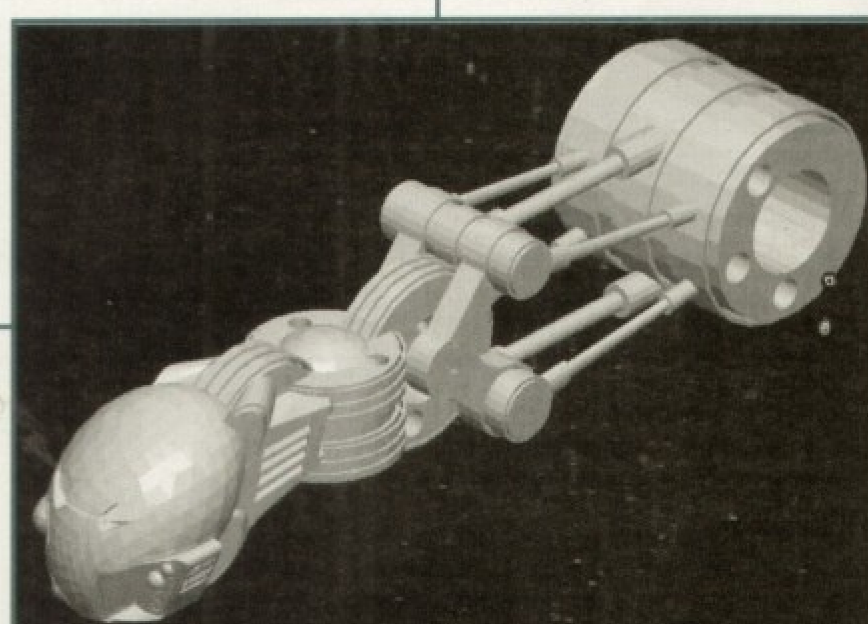
All the 3D models are built from small triangles – these are the polygons. To create a smoother effect, Gourard shading places a highlight in the centre of each triangle, creating the impression that it is curved.

Phong Shading – Although the Gourard technique brings excellent results, it doesn't round the polygons at the edge of the model. This is because it would have to make calculations that involve the background scenery as well as the model itself.

Phong shading can do this, however, allowing images of increased quality to be created. Unfortunately, it takes about twice as long to complete as Gourard shading, and at the moment animating it in real time is not practical in games. **Real Time** – Animation with 25+ frames a second – like you'd expect from video.



The original mesh for the Loader robot's head



First the polygons are generated...

the beast

For the future

Graphic art in computer entertainment is heading in the direction of realism and detail, and rendering is possibly the most important aid in these developments.

This leaning towards realism is natural, because it's the type of animation that computers perform well. Rendering can transcend manual techniques by introducing more complicated motion or more detailed images.

Mirage is convinced that this is the way computer games are going. Adrenalin(E) Factor, a game currently in development, is like Cannon Fodder but with a difference: It will boast beautiful, fully rendered sprites.

At the time of writing, Rise is riding high in the charts, a fact that undoubtedly has something to do with the visual pull of its graphics. Gamers want images of an increasingly impressive quality all the time; with Rise of the Robots, Mirage has laid down a path to the future.

The art behind the code

Despite the undeniably high-tech aspects of the game, giving Rise its visual style required large doses of old-fashioned artistic flare. You only have to see the cinematic sequences to realise that game design is getting closer to movie production.

Like a film crew, the developers had to take into account such considerations as light and ambience. For example, a diffused light source was used to soften shadows, creating a more natural effect.

Another challenge arose when creating textures that suited the robots, since the team felt the ones supplied with 3D studios had been overused. The original Rise droids had clean plastic surfaces, an effect that left them looking too wholesome to do the job.

They found that a reflective chrome effect could be achieved quickly by wrapping a picture around an object, and Kwan Lee came up with the idea of creating the corroded texture that makes the industrial robots look rough and dirty. Small touches these may be, but they proved vital in creating a more impressive look.

develop the meshes. He claims that this was an ideal introduction to the rendering process because, as with the kit, the Rise robots were assembled from a multitude of separate components.

In other words, instead of modelling the kit as a completed whole, SG drew each body part on its own. This helped him learn how to assemble the robots from a combination of spheres and other objects, distorting them along the way to create the desired effect.

BUILDING

When the idea had been explored enough to be sure it could work, it was Sean Naden who actually built the robots. A qualified technical illustrator, his experience outside the games industry proved invaluable.

Sean's brief from SG was to create a range of strange and ferocious mechanisms, each one looking more technically advanced than the last, until they reached the level of the Supervisor, the toughest robot of them all.

By far the most time-consuming aspect of the game's development, the first model alone took months to complete.

The much vaunted morphing technique, reminiscent of Terminator 2



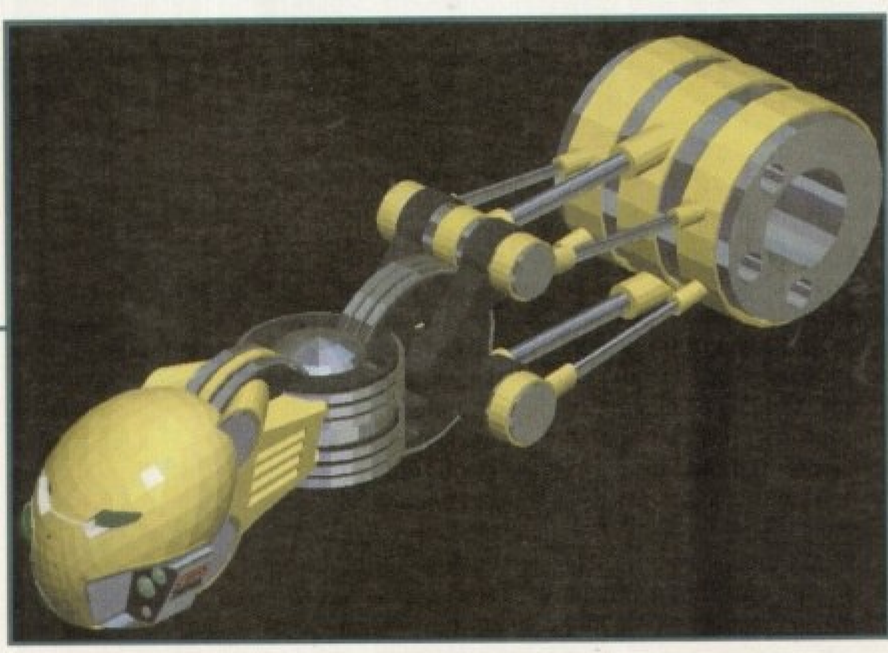
In the meantime, Mirage turned to a professional interior designer, Kwan Lee, to create atmospheric backgrounds with a real sense of depth. In contrast to the round-the-world scenery behind most beat-'em-ups, Kwan concentrated on the game's story by creating various levels of the Electrocorp complex.

The task of animating the robots fell to Andy Clark and Gary Leach. In a process which had many similarities with traditional stop-motion animation, they found making movements convincing a difficult art to learn.

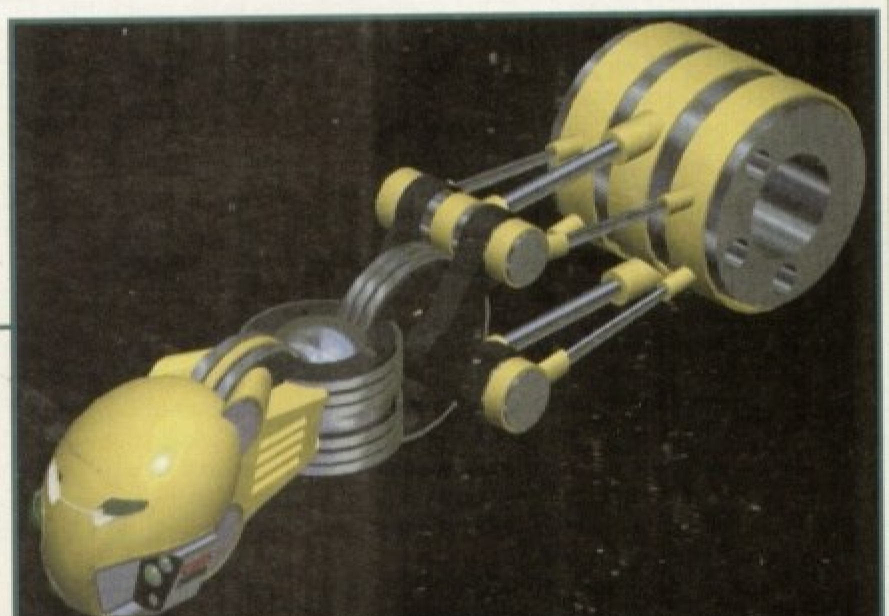
In fact, though the robots were looking tough in still frames by this stage, when they were first put into motion they looked about as impressive as Godzilla. The team had to study martial art moves to endow their robots' kicks and punches with the impression of real force.

Having said this, SG confessed that the computer animator does have considerable advantages over the traditional artist in many respects. While the Rise project may have taken time, rendering is considerably faster than the old methods.

3D Studio's Interpolation facility, for example, meant that the animators only had to create the key frames in a robot's movement because the program would then automatically fill in the missing gaps. It's features like this that make computer animation less labour intensive.



...then the model is mapped with texture and colour



An example of what can be achieved with Phong shading

Just when you thought there were far too many beat-'em-ups around, Gremlin comes kicking and punching into the genre with one of its own. Jonathan Maddock fights in the review corner

Shadow

INTRODUCTION

What with the recent release of Rise of the Robots and Mortal Kombat 2, you'd think that it would be rather a bad time to release a beat-'em-up of your own. Gremlin Interactive have done exactly this with its latest offering, Shadow Fighter, so they must know something we don't.

Gremlin believes, that its beat-'em-up, created by Italian developers, NAPS Team, will kick its competitors out of the ring and claim the spot at the top of the charts for its very own.

Some of you probably haven't heard anything about Shadow Fighter, mainly because of its low-key release and the fact that the other two contenders have been backed by massive TV advertising campaigns which have been practically force-fed and rammed down your throats.

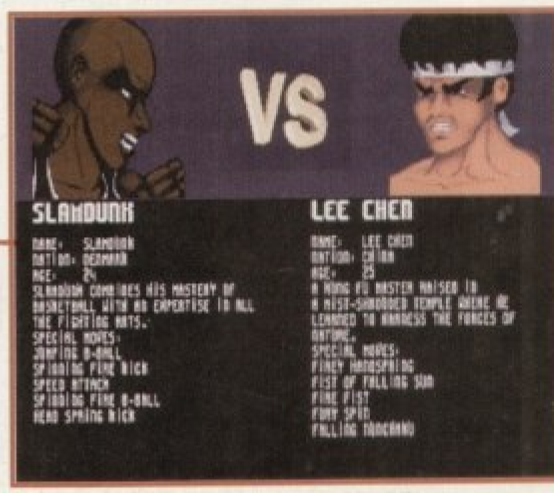
Shadow Fighter features everything you'd want in a beat-'em-up with its special moves, secret manoeuvres and its 16 characters, all with their own fighting styles and personalities.

So how does Gremlin Interactive's game fare up against the combined might of Mortal Kombat 2 and Rise of the Robots?

Will the big boys beat it up and toss it aside like a rag doll, or will the underdog, Shadow Fighter, put in a sterling Rocky-style performance and claim the beat-'em-up championship belt for its very own, after knocking its opponents down with a strength-sapping punch in the last minute of the final round of the fight?



Kury is up against Lee Chen, famous for what he can do with one hand. Looks impressive and believe you me, it hurts like hell



While you wait for the fighters and backdrops to load up, you can read the wealth of information on the various characters



Yurgen, who obviously once appeared with the Village People, goes for Electra, but a nifty jump later and she's out of trouble

STORYLINE

Kioya Mishuma, is a seventeenth century Samurai held in high esteem by his Emperor and the people for his honourable and disciplined life. He is a man blessed with an agile mind and his skill with a sword was unrivalled.

Plagued by dreams, he longed for more fame and wished to become a living legend. Chronozon, keeper of the abyss and gateway to the after world, found Kioya's dreams very interesting. He dispatched his personal servant to claim his noble soul, for such a soul would be highly prized by his master.

One night, Kioya woke up with a start to find a shadow standing at the foot of his bed with a globe of light in its hand. All the dreams that had troubled him were in the globe, there for the taking. Kioya had been blessed by the silent messenger.

His feats across the kingdom became legendary, and it was said that Kioya could achieve the impossible. Soon his confident swagger was despised by the other Samurai. Kioya had begun to abuse his status and people saw him for the false idol that he was.

Kioya rebelled against his doubters and in a rage, killed countless of his fellow Samurai. This deed did not go unnoticed. Chronozon despatched his demons to curse Kioya's now worthless and foolish soul. Cursed to become one of the walking dead, Kioya's only wish now was that of release from his torment.

Eventually he offered a tremendous reward to the individual who could give him peace, someone who could overcome his formidable combat skills. Fighters from all around the world began combat, for the honour of pitting themselves against the Shadow Fighter – perhaps the greatest fighter who ever walked the earth.



Training in Shadow Fighter is absolutely brilliant and could almost be a game in itself, and Pupazz is the most vicious shop tailor's dummy ever seen



fighter

GRAPHICS

The first thing that'll you'll notice when you pick up the Shadow Fighter box is the artwork on the front and just how good it looks. Gremlin Interactive hired Greg Staples, the highly-rated 2000AD artist responsible for the art in strips such as Slaine and ABC Warriors, to produce the cover art and provide illustrations for all sixteen characters. So, before I even loaded the game I was already impressed by the presentation of the product.

Thankfully, this style continues when you start to play. There is no fancy and mind-numbingly dull introduction, so you're able to get straight into the action without any trouble at all.

The characters are superb and whichever one you choose, you won't be disappointed because each has an astounding set of moves, special or otherwise and, to be perfectly honest, they're so original it's like a breath of fresh air in the world of beat-'em-ups.

The backdrops are nicely drawn and are linked with whatever country the fighters are fighting in. The countries aren't even bog-standard ones. You can scrap your way around the world in places such as Denmark, Thailand, Pakistan, Tibet and to make things even more different, there's even a space level for you to enjoy.

For an A500/600 game, Shadow Fighter really does perform at the highest level. OK, so maybe the characters are lacking colours in places, but this isn't an AGA version and with sixteen characters you'd be hard pressed to find 32 colours that suit every fighter. A1200 owners have no need to fear though, because a super-enhanced version will be forthcoming, complete with 256 colour graphics, and I'm already drooling at the mere thought of it.

80%

SOUND

Audio have been a bit of a problem for the latest beat-'em-up releases. Brian May's guitar twiddling in Rise of the Robots is pathetic, and the so-called tunes in Mortal Kombat 2 are bog-standard coin-op compositions and I wouldn't dream of letting them damage your ear-lobes. Shadow Fighter, on the other hand or should that be ear, is superb, simply because it has an extremely strong soundtrack.

The menu music, with its fast breakbeat, sounds okay, but the fun really starts when you start fighting. A range of tunes with a banging beat and some mad acid squelches really do enhance the overall atmosphere.

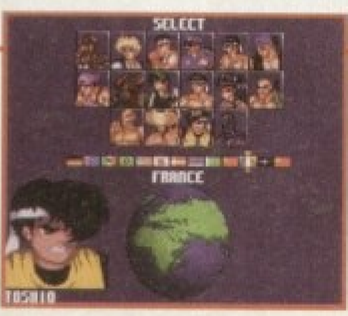
The sound effects aren't anything to shout about, but they do the job adequately enough, with plenty of thumps, bumps and smacks in all the right places. The simple fact that Shadow Fighter sounds better than any of its recent competitors is a good enough reason to rave on about the soundtrack, and thus it gets a big thumbs up from me.

75%

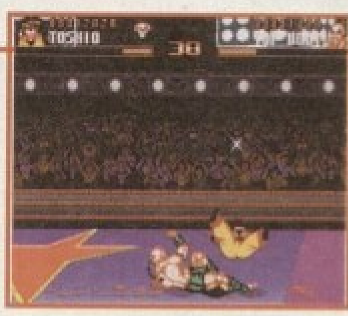
Krhome, one of the most dangerous characters in the game, demonstrates one of his morph moves to a bewildered Toni



Publisher: Gremlin Interactive
Developer: N.A.P.S Team
Disks: 4
Price: £29.99
Genre: Beat-'em-up
Hard Disk Install: No
Control System: Joystick/Joypad
Supports: A500/600
Recommended: 68000



The championship and you must choose your character. Play the game on easy or normal level though and you won't be able to select everyone



Top Knot knocks the 14-year-old Toshio off his feet. A nasty thing to do perhaps, but wait until you see him perform his special moves



OPINION

90%

This A500/600 version of Shadow Fighter may not look as tasty as its other two beat-'em-up rivals, but it plays a lot better. The characters are as original as anything I've seen in the genre, as are all their special moves, and there are so many nice touches I simply don't have the space to tell you about them all.

For example, the training session, where you face another character called Pupazz who is basically a stuffed training dummy, is a brilliant idea. This allows you to test all your special moves and although Pupazz looks harmless, he packs quite a few surprises.

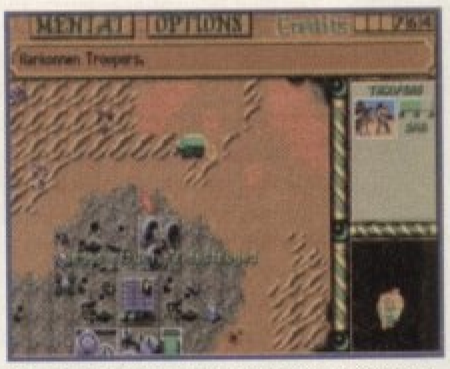
The way the control system is set-up is well done and it won't be long before you're going through various combinations of moves with the greatest of ease.

Shadow Fighter works well as a two player, but surprisingly enough the one-player game is just as good. It's very tough and you'll need plenty of hours practice before you meet the Shadow Fighter, but at least you progress unlike Mortal Kombat 2.

As far as beat-'em-ups go on the Amiga, I've been more than pleasantly surprised by Shadow Fighter. It could go on from strength to strength after the release of the AGA version and finally take the beat-'em-up crown away from games like Body Blows and Mortal Kombat. Shadow Fighter is, quite simply, thumping good fun.



At the start of the game there is little competition, allowing you relative safety



The nice Harkonnens have come to visit and show their shiny new weapons to the Ordos

system essentials



We return to give you the lowdown on what's hot and what's not in the world of re-releases. This month, a below average racer and an above average strategy game fight for your hard-earned cash.

Dune

AMIGA GOLD AWARD

This strategy game was hailed as a classic when it was first released, and after a brief revisit as a member of a compilation pack, it has now been re-released on Ocean's Hit Squad label.

The dusty planet of Arrakis, also known as Dune, has the only form of the spice Melange in the universe. It is known to provide healing powers and can prolong a human's life, letting them live for hundreds of years. It is also a very rare commodity, and much sought after, especially by the planet's Emperor who has landed himself in considerable debt.

In his haste to mine the spice, the Emperor has allowed three different houses to compete for the privilege of being the sole spice miners. The three houses are all very different, and each has its own strengths and weaknesses. The 'evil' Harkonnens start with a superior army, while the house of Atredides has the secret support of the Emperor's crack troops. Although the game is mostly strategic, it shouldn't put off people who are not particular fans of the genre. The game's engine has been designed so that it is very easy to use, and while it sometimes runs quite slowly, especially in the heat of battle, it is helped slightly by the extensive list of keyboard commands.

The early missions merely consist of mining a certain amount of spice, but later on you are also required to destroy the enemy's base. The further into the game you travel, the more weaponry is available to you. This makes the game much easier, but you still tend to be sometimes less developed than your foe.

The game spans five disks and runs through AmigaDOS. Although this can sometimes provide quite extensive accessing times, it means that it is easily hard-drive installable. This is to be recommended, as is a fast Amiga. Because the disks lack copy protection, the games lengthy manual is used and is unobtrusive as well as effective.

Dune 2 was well worth buying when it was first released, and now that it's under fifteen pounds it's a veritable bargain. If you're a strategist on a budget, or missed it the first time, this should be put right on the top of your purchase list.

80%

Publisher: Hit Squad
Developer: Virgin Interactive Entertainment
Disks 5
Price: £14.99
Genre: Strategy
Hard disk install: Yes
Control system: Mouse
Supports: A500/600, A1200/4000
Recommended: 68020

Bump 'n' Burn

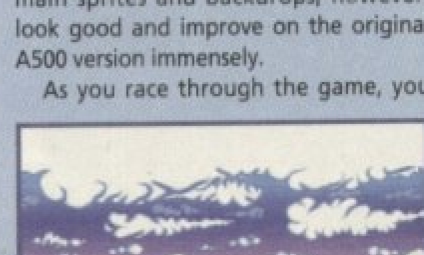
Publisher: Grandslam
Developer: Grandslam
Disks: 1 CD
Price: £29.99
Genre: Driving
Hard disk install: N/A
Control system: Joypad/Joystick
Supports: CD32
Recommended: N/A

When the floppy version of Bump 'n' Burn was first released on the Amiga, it was met with mostly good reviews and Grandslam is obviously hoping to emulate its success with its shiny new CD32 version.

Bump 'n' Burn is set in Toonia's seven kingdoms, each having a different cartoon theme ranging from 'The War Torn City' to the compulsory ice levels. Each scenario has its own character, who has its own properties and 'personalities.' Although these fail to drastically alter the game play, they make it slightly more amusing in two-player mode and offer a bit more variation.

There are a total of seven tracks available for you to compete on as you travel around Toonia, and can be completed in any order. To qualify you are required to finish in at least fourth place, with your position depending on how much money you make. Grandslam has attempted to use the whole of the CD32's colour palette, and occasionally the tracks become so garish it makes it hard to tell exactly what is going on. The main sprites and backdrops, however, look good and improve on the original A500 version immensely.

As you race through the game, you can collect various 'power-ups' haphazardly littered around the track. When you first start playing they appear to do very little, and only add much excitement to the game in two-player mode.



The sprites and backdrops in Bump 'n' Burn complement each world as you travel around Toonsville

This version is almost exactly the same as the A1200 release, and the levels hardly fill a CD. The inclusion of a tacky American voice-over before the race enhances the cartoon feel of the game, but quickly palls after the first hearing.

This game is aimed at the younger end of the market, but the difficulty level and restrictive playing area make it quite frustrating. It's definitely not recommended for people who have the original game, and owners without the original should take a long look before purchasing.

40%

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An essential aid for the enthusiast, our monthly advice section returns to help you take your Amiga to its limits

Waiting at the green

The major problem I will be taking a look at in this, the third instalment of the system medical, is hard drives: how not to screw them up, what to do if you have done so and how to get around the problem occurring again. The most important bit of advice to give about hard drives is: never reboot or switch your machine off when your hard drive light is on!

Sometimes you just can't avoid doing this. If your machine has crashed and has locked the SCSI bus so that the light stays on you can do nothing else but switch off and restart. Sometimes you may completely fill your hard disk and a badly-written program doesn't recognise this so it keeps on writing.

These sorts of situations should really be few and far between, unless you're the sort of masochist who revels in using bad and potentially dangerous software all the time. If these situations happen, however, the only thing you can do is bite the bullet and switch your Amiga off.

If you're still using version 1.3 you will almost certainly have real problems when you switch back on, but with a sensible version of Workbench, the most likely thing to happen is that your machine will boot. However, this will be a lot slower than normal and it will look like your Amiga is trying to give itself a heart attack from the way the hard drive light constantly flashes and the noises it makes.

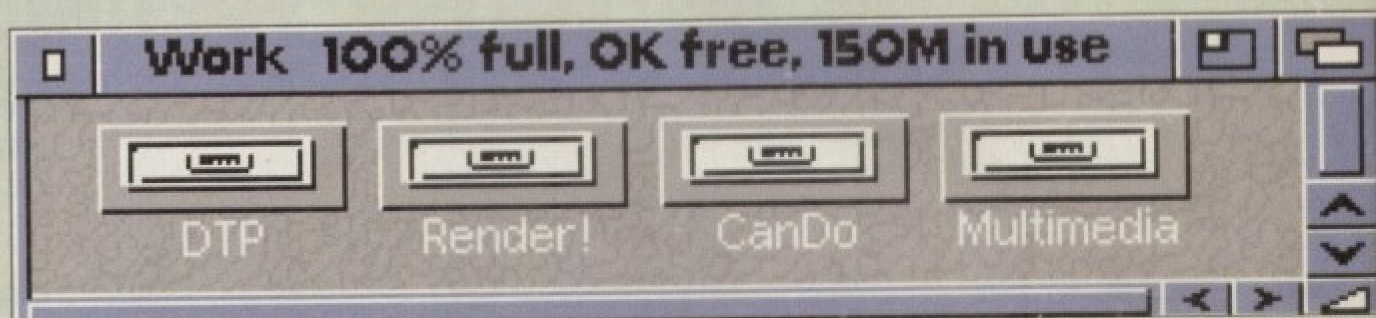
Fear not! Leave your machine to boot up and get on with repairing itself, for that is what it is doing. After a few (admittedly nail-biting) minutes, the hard drive light should have gone out and you will be left with a smoking heap of rubble that used to be your computer! Well, no, this is not true. You will actually have a machine that should have sorted out its hard drive problem all by itself.

You will probably find that the file you were working on when the machine crashed is only partially retrievable at best, and in most cases it is best deleted altogether. If you find requesters popping up when you try to delete the file saying: "Volume Work has a checksum error on block 237465", then more work needs to be done.

If you have been paying attention to these articles and are a regular reader of this magazine, you will remember that I recommended various bits of software for hard drive management some months ago. Did you go out and get them immediately?

I certainly hope so, because you will need either Upper Disk Tools, Ami-Back Tools, Quarterback Tools Deluxe or, possibly, Disk-Salv by Dave Haynie to get around our current problem without repartitioning your hard drive, and you should never repartition or reformat your hard drive out of necessity – this should be done only if you want to change the setup.

The job the software mentioned above



If you've got a 100 per cent full drive and your hard drive light is on constantly, it's time to go and make some tea while it validates

Running a virus checker makes good sense

In keeping with this month's general hard-drivey kind of feeling, you should be somewhat worried about the possibility of infecting the largest bootable disk you have in your collection with some sort of virus.

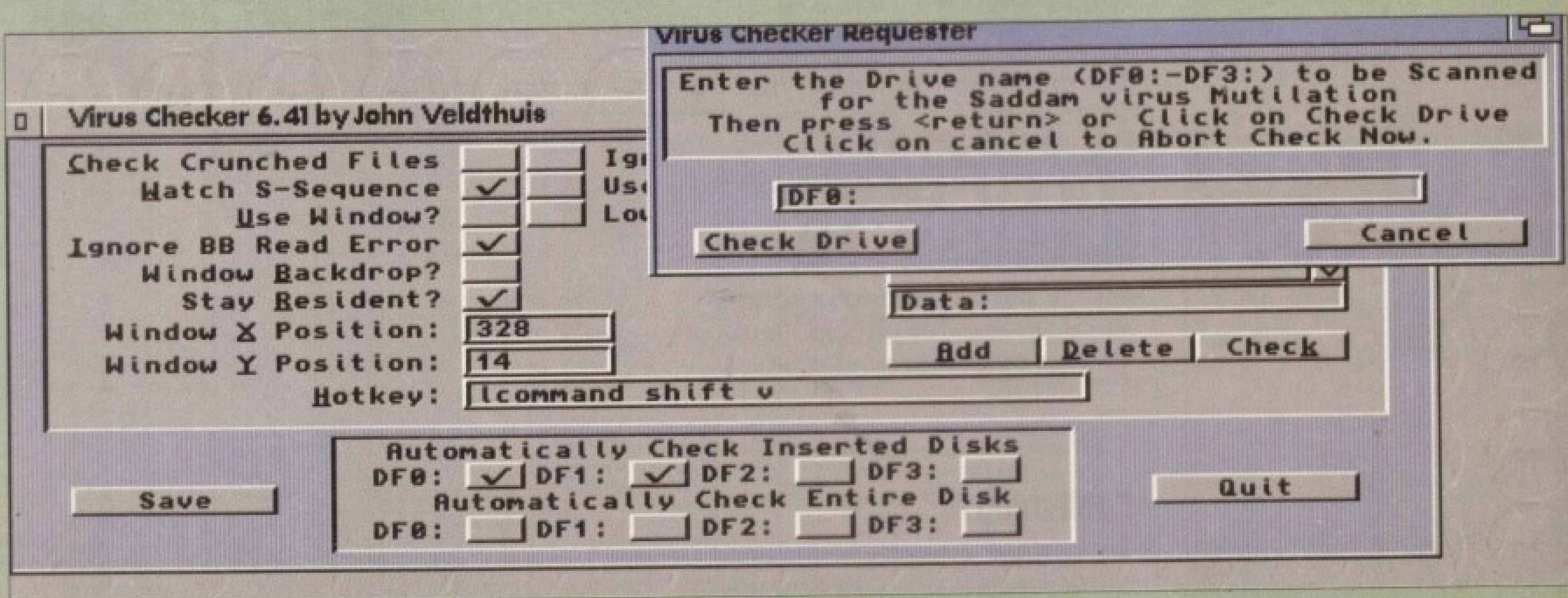
Most viruses are not as interested in affecting a hard disk as they are in infecting a floppy one, but there is always a risk, so it is in your interest to be constantly running a virus checker of some sort or another. I favour John Veldthuis' Virus Checker, but there are several others available.

By way of allaying the fears of several people who have written to me, I would just like to say that, while viruses are nasty and can ruin your disks, there are several things they certainly aren't capable of.

The first is being able to hide in your real time clock. Nope, not a chance. Don't listen to anyone who tells you so. Secondly, they can't hypnotise you into committing mass murder, so no using that as mitigation when you're in court.

Thirdly, they cannot destroy your machine. They might be able to wipe out all the data on your hard disk, but have no fears about your Amiga bursting into flames or other similar nonsense.

Be careful with your disks, hard or floppy, and they will come to no harm.



The Gulf war may be over but if Saddam gets onto your floppies, it's Kurdains for them!

light

Does your hard drive lock and the system die of a virus? If it does, take heart as Frank Nord guides you out of the depths of despair

Amiga Medical Part 3



will do is pretty much the same, no matter which one you have running, but it's very important that you have at least one of the programs. You should use the repair function of whichever software you chose – for instance, Ami-Back Tools' repair function is called "Analyst" – and set it going.

In a matter of minutes you should have your drive back, hale and hearty, and at worst, missing your latest piece of work. This is still a lot better than losing everything because you thought you would have to reformat. Reformatting should never be done as a cure to this sort of problem – it's a bit like someone who has a cold resorting to euthanasia.

If it's your boot drive that has a problem, things might get a little trickier. It's possible your machine won't want to boot, or that it fails half way through booting. Don't lose hope yet – try booting from your original Workbench disk. Once your Amiga has booted from floppy you will probably find your workbench partition is going crazy trying to validate itself – relax, things are going well, honestly!

However, if you find you need to use your hard drive repair program, it might need files that are on your hard drive to work, for example fonts or libraries. If so, you can try to assign the needed directories to the correct places on your hard drive, or even try rebooting from your hard drive now that it has been validated.

You might still have problems with booting because of the checksum problems, but you should be able to get something running, and, hopefully, that will be enough. If it still isn't enough, what you will need to do is make a boot disk with your recovery program installed on it, along with some other emergency tools such as a file manager, text editor and backup program.

Next month I'm going to be covering how to make boot disks, so tune in for that if you need any help with the aforementioned process of making your emergency disk.

This all seems like a lot of effort to preserve your hard drive's contents, but it is definitely worth it. If you just give in and reformat every time you have a problem you will never feel safe storing anything important on your hard drive, and this will limit its usefulness to practically nil. In terms of keeping your data safe, in case of unrecoverable errors, it is definitely worth backing up your hard drive on a regular basis. I know it's a drag, but you'll get no sympathy from anyone if you lose everything.

The dangers from spikes or surges in the electricity supply are fairly minimal, unless you live in the depths of the country, and the chances of a head crash these days are zero unless you drop your machine onto a hard floor, so just make sure you never (all together now...) turn off your machine when the hard drive light is on.

Programming Information

If you are trying to write programs on your Amiga for any purpose it is a really good idea to write to Commodore for the Native Developer Kit which costs a paltry £23 and contains a wealth of programming information.

Write to: Sharon McGuffie, Commodore Business Machines UK Ltd, Commodore House, The Switchback, Gardner Road, Maidenhead, Berks SL6 7XA

SCSI = hard drives, plus lots more

Actually, SCSI means a lot more than just hard drives. Most people are now familiar with CD-ROM as a storage device for large amounts of data, and most people know that you can get CD-ROMs that work with SCSI or proprietary controllers.

But that is just scratching the surface. One good place to look for the more unusual SCSI device is in magazines devoted to machines other than the beloved Amiga, such as PC or Mac mags. You can find such things as tape streamers, Magneto-Optical drives, Exabyte or DAT backup drives and hard drives in sizes up to 2.1 Gigabytes and larger.

What's more, because PC and Mac dealers sell an awful lot of this kit all the time, the prices are usually a lot keener than Amiga dealers. However, PC and Mac dealers tend to be highly ignorant of Commodore's baby, and scornful, so it's best not to deal with them unless you are sure you will not need any technical help.



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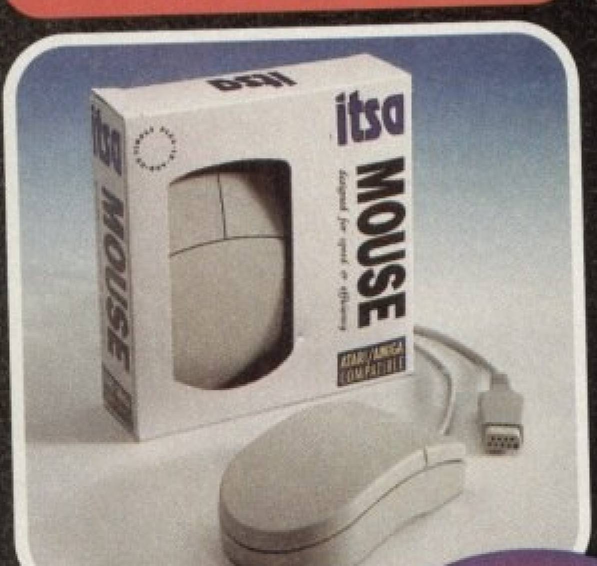


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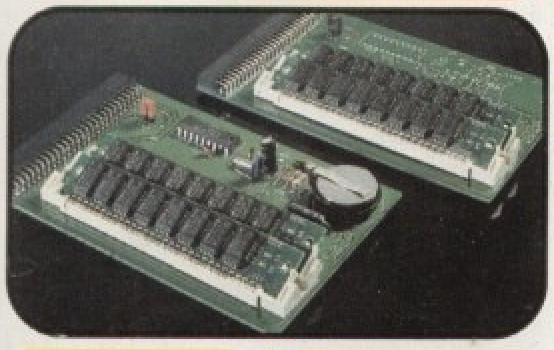
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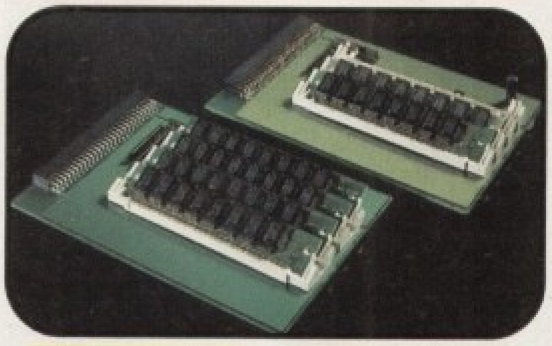
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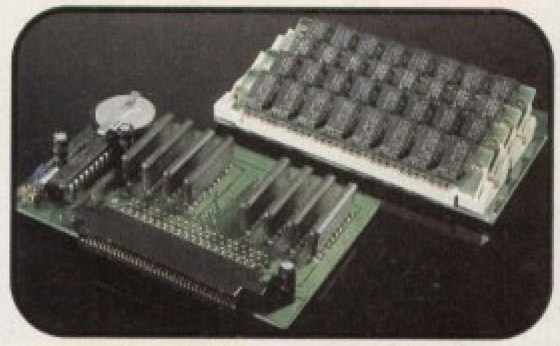
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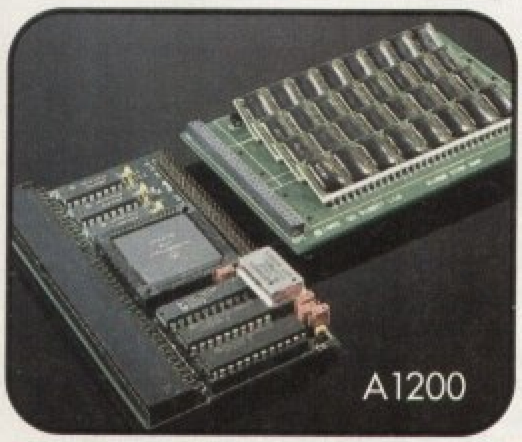
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Under comm

Welcome again to the Easy AMOS crash course in Amos programming. This month we'll be looking at how you create programs and what commands you use. It would be a good idea if you had a copy of the Easy AMOS manual to hand, but it's not essential.

Before you start programming in any language you have to figure out what it is you want to program. The way your program is laid out on the screen – what goes where – is called the 'structure' of your program. By far the hardest thing about trying to explain the best way to lay out a program is that there is no best way.

You can write the program in one big lump, which is what I would call the linear approach. The other major way of doing it is by using sub-programs and Procedures (what we call Procs), where you have a main program which drives all the Procs which are like little program modules that can be added to and subtracted from the program without harming the structure.

Although I prefer the linear approach, where you structure the program as a series of subroutines all from within the main program, I think you should learn how to use Procs, simply from the point of view of being able to read an Easy AMOS listing.

Using Procs is easy. Imagine a Proc as a command you've added to Easy AMOS so that it does something. It's like a defined function, or like a program within the main program which does one job. This means that the Proc should almost always be a standalone program in its own right.

The bonus for writing programs which are Procs is that if every function in a program is a Proc, you can write each segment of the program separately and test them one at a time. Finally, you can combine everything, all the Procs, into one big program.

Before you can use a Proc you have to define it, and this can be done anywhere in the program, using the:

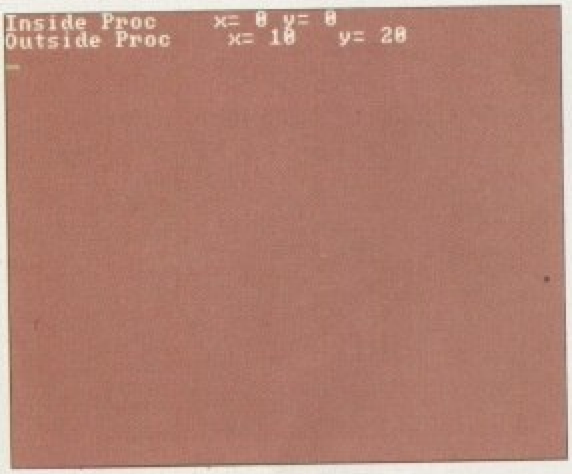
```
Procedure <name>
```

command. This can be placed at the beginning or the end of the program code – Easy AMOS can find a Proc definition anywhere in a program, as long as it's there. If it's not there, Easy AMOS will tell you. Generally, coders tend to put all the Procs at the end of their programs to keep them all in the same place. After the Proc is defined it can be called, and you do this either with:

```
Proc <name>
```

or just the name of the Proc. Take this very short demo program:

```
Proc EASY
'
Procedure EASY
Print "Easy AMOS is really Cool!"
End Proc
```



The variable inside and outside a proc – see listing 1

That wasn't too hard was it? The Proc in this simple example is a statement to print the 'Easy AMOS is really Cool!' string in the Print command. Every time you use the Proc's title in the program, in this case EASY, you get the same output as if you'd typed the Print line inside the Proc. The routine inside the Proc definition can be more than just a single command, and it usually is.

The most convenient way of laying out a program is to have a Proc for each bit of it and then call it from a main loop. For example:

```
Rem ** Game Program **
MAIN:
_CHECK
_MOVE
_SHOOT
Goto MAIN
Rem ** and now the Procs ***
Procedure _CHECK
Procedure _MOVE
Procedure _SHOOT
```

This is the basic structure of a game program. As long as the Proc definitions are in the program somewhere, they will work.

These are like DATA statements, which can be read anywhere in the program by the READ command. (See your Easy AMOS manual for more on this.)

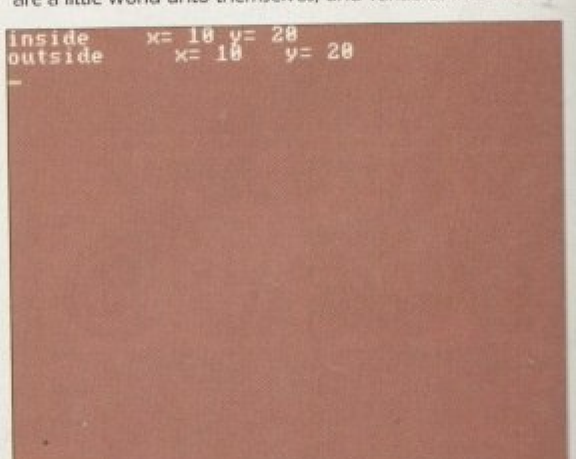
By the way, the Procs in the above example have been 'folded.' For clarity in your listings you can fold Procs up into one single line to make your listings more readable. This is done using the Fold/Unfold command in the Easy AMOS command menu.

When you activate this command it toggles the folding on and off for the selected Proc. Press it once and it folds the Proc, press again and it unfolds it. When you've folded the Proc, there is only a single line left.

So Easy Tip number 1: Each time you start to write a program in Easy AMOS, create a different Proc for each stage of the program, and then just weld them all together with a main program.

The best way to crack any programming job is make sure it is broken down into sections, and then work on the sections. Work on routines is never wasted, so if you have a favourite routine you can always re-use that in your next program.

The one sticking point with Easy AMOS is that by using Procs you are going to have problems with variables. Procs are a little world unto themselves, and variables in a Proc



Making variables Global – see listing 2

Go back and do it again

Programs would be no fun unless they were capable of doing the same things over and over again. So, Easy AMOS has a number of looping structures which enable you to do repetitive tasks either over and over, or over and over until certain conditions are met.

The most important looping structures you should know about are While/Wend, Repeat/Until, and Do/Loop. The first two are similar, the difference being that While/Wend repeats a section of code while a condition is true – listing 4:

```
Y=0
While Y<20
    Inc Y
    Print Y
Wend
Print "Got to 20"
```

so, while Y is less than 20, the program runs. As long as the condition of Y is less than 20, when the number Y reaches 20 or over, then the loop is terminated and the next line of code is run, in this case "Got to 20" is printed to the screen.

That's While/Wend, now Repeat/Until waits until the condition is true before it stops, like so – listing 5:

```
B=0
Repeat
    Inc B
    Print B
Until B>50
```

So, unlike the first example, until X is greater than 50 the program keeps going round and round. Some loops, are conditional, as they stop after a test. The remaining type is unconditional, which means it doesn't test any variables before it loops, it just does it forever.

So Do/Loop is used if you want a part of the program to go around for ever. If you want to leave a Do/Loop, apart from using Break (Control-C) to break out of the program, you can insert an Exit command into the code to give you a let out, like this – listing 6:

```
G=0
Do
Inc G
Print "The number G is now equal to ";G
If Mouse Key=1 Then Exit
Loop
```

This bops out of the loop if you hold down a mouse button. Do/Loop is a bit crude as loops go, but it has its uses. Incidentally, if you use another loop called an Exit If loop the Exit command can be made to test the circumstances of a variable itself. To test a variable using End If you go – listing 7:

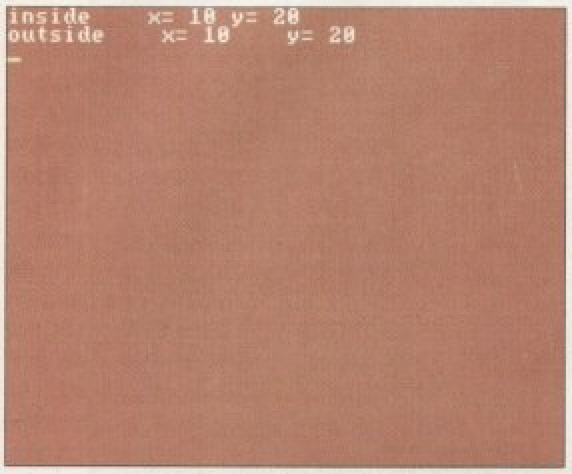
```
K=0
Do
Inc K
Print "K=";K
Exit If K>10
Loop
```

When the loop goes above 10, the loop bops out and you can continue in some other way.

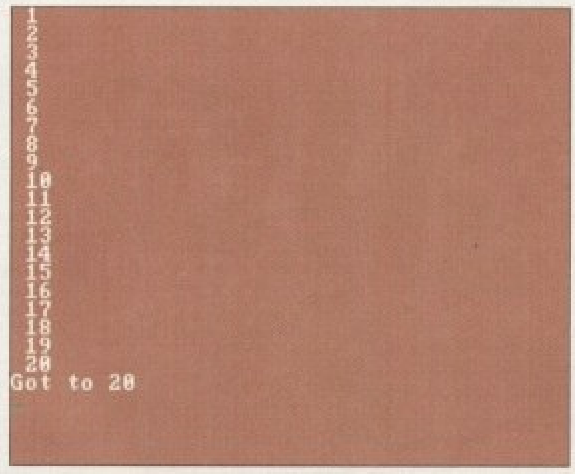
and with AMOS



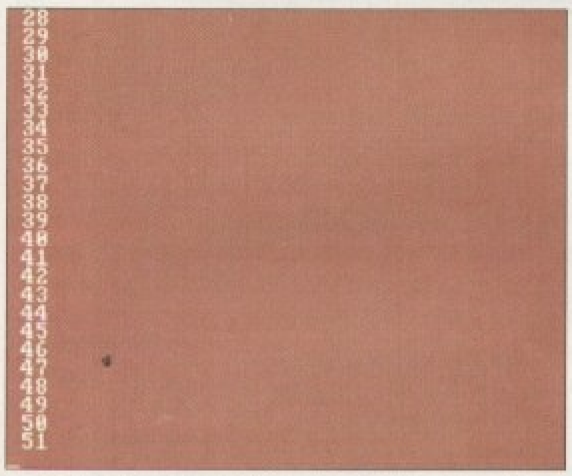
Phil South continues his short series on how to get the best from your free copy of Easy AMOS



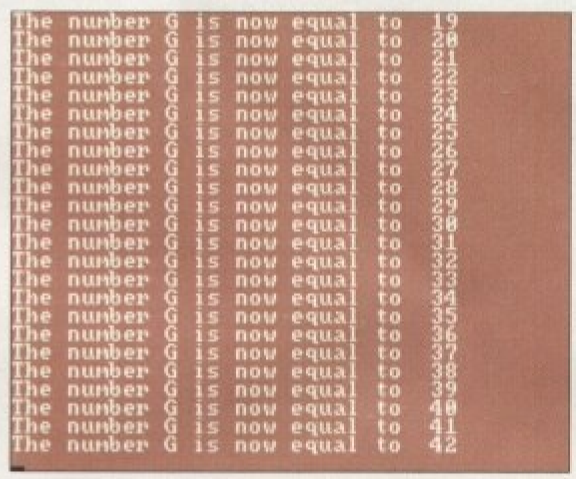
Accessing Global variables inside and outside a proc – see listing 3



This is an example of the While/Wend looping structure – see listing 4



An example of the Repeat/Until looping structure – see listing 5



This relates to listing 6 and shows the use of the Do/Loop

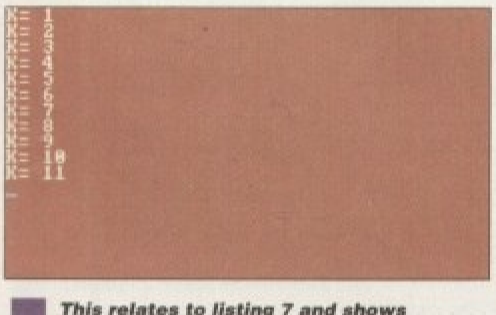
are never shared with the rest of the program unless you specify this to be the case.

So Easy Tip number 2: Remember to declare variables you want to share with the rest of the program or they will be assumed to be 'local.' Use the Shared command in the variable definition inside the Proc, or use the Global command in the main body of the program. Clear? Okay, let's break it down a little.

A local variable type is the default for variables in Easy AMOS, in other words a variable inside a Proc is separate from the rest of the program. Type in this example – listing 1:

```
X=10 : Y=20
TESTER
Print "Outside Proc    x=";X,"y=";Y
Procedure TESTER
Print "Inside Proc    x=";X,"y=";Y
End Proc
```

The figures would be the same, but variables used



This relates to listing 7 and shows how the loop has bopped out after 10

inside the Procs are different from ones used outside the Proc, in that you can't carry any variables into a Proc unless you make them global.

This can be tricky. For example, if you define arrays using the DIM command you have to adapt them a little if you're going to use them in a Proc, by either making the variables global or sharing them from within the Proc. If you want to make variables global you must use the Global command to declare the list at the front of your program – listing 2:

```
X=10 : Y=20
Global X,Y
TESTER
Print "outside    x=";X,"y=";Y
Procedure TESTER
Print "inside    x=";X,"y=";Y
End Proc
```

As Global variables can be accessed from anywhere in a program, you can use them inside Procs. If you want to have access to variables which are inside a Proc, you must define them as "Shared" – listing 3:

```
X=10 : Y=20
TESTER
Print "outside    x=";X,"y=";Y
Procedure TESTER
Shared X,Y
Print "inside    x=";X,"y=";Y
End Proc
```

Another way to send variables and user input to a Proc is through the use of what is known as Parameter Definitions. This is where you pass a specific list of variables, complete with their contents, to a Proc as you define it, like this:

```
Procedure _STOOPID[Z$,Y,P]
```

The variables are loaded directly from the main part of the program, and the Proc can be called in two ways. Either you pass another variable to the Proc which has a value you wish to pass to the new variables in the Proc, such as this:

```
Z$="Don't call me stupid" : Y=3 : P=4
_STOOPID[Z$,Y,P]
```

or you can add the values when you call the Proc:

```
_STOOPID["Don't call me stupid, just
call...",45,9]
```

An elegant way to pass values from a main chunk of code directly to a Proc, which can also be used when someone is typing data into a program, is to go directly to the Proc in question.

Time's up

Next month we'll be printing a listing for you to type in Easy AMOS which will show you how a whole program goes together. See it before it sees you.

Write stuff

If you have an AMOS question, or a routine you'd like to share with the world, then please write to Phil South,

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(CAT 1098 – 1 DISK). A very, very good playable two player overhead adventure game.

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(CAT 351 – 1 DISK – 1200 ONLY). A bone-cracking good fighting game for all beat em up fans.

☐ **Overlander**
(CAT 2157 – 1 DISK). An up-dated version of the old classic Moon Patrol game. Fab.

☐ **Pop Quiz**
(CAT 2250 – 1 DISK). Test your knowledge of pop history with this pop-tastic quiz.

☐ **Red Dwarf Quiz**
(CAT 887 – 1 DISK). Test your knowledge of the TV series with this Dwarf-tastic quiz. It's very tough indeed.

GAMES

☐ **Road to Hell**
(CAT 565 – 1 DISK). Yet more overhead racing in yet another great game. This time you can customise your car as well.

☐ **Roketz**
(CAT 1987 – 1 DISK – 1200 ONLY). This is a fantastic new two player shareware blaster that really uses your 1200's abilities well. It's commercial quality stuff.

☐ **Santa and Rudolf**
(CAT 897 – 1 DISK). Christmas just wouldn't be the same without a lovely cute festive game for you to play would it?

☐ **Starbase 13**
(CAT 1213 – 2 DISKS). This is an epic graphic adventure with lots to solve. It's very playable, and quite funny.

☐ **Task Force**
(CAT 2122 – 1 DISK). Just happens to be a stonkingly good Space Crusade type strategy combat game. Play it Now!

☐ **Tetren**
(CAT 66 – 1 DISK). Tetren is a very good Tetris clone. It features a good selection of new oddities, and two-player option.

☐ **Total War**
(CAT 1043 – 1 DISK). A brilliant version of the board game Risk. Six players computer or human compete, and battle.

☐ **Wacko Jr in Wonderland**
(CAT 273 – 1 DISK). A delightfully cute platform game which should easily please any kids, even a few adults too!

ASSASSINS

☐ **Assassins 190**
(CAT 779 – 1 DISK). Includes the excellent Gravity Force 2 game which is a must for two player combat action.

☐ **Assassins 192**
(CAT 2285 – 1 DISK). Includes the fiendish Peg It puzzle game, and the funny Les Dennis Hangman game.

☐ **Assassins 196**
(CAT 2360 – 1 DISK). Includes a real 3D driving game that literally comes out of the screen. 3D specs are required.

☐ **Assassins 198**
(CAT 1617 – 1 DISK). Includes one of the best football management games currently available on the PD scene.

☐ **Assassins 199**
(CAT 1653 – 1 DISK). Includes the whacky Popcorn game, and the arcade perfect version of Defender.

☐ **Assassins 201**
(CAT 346 – 1 DISK). Includes the excellent 3D shooter Hydrozone which is fast, furious and very playable.

☐ **Assassins 205**
(CAT 671 – 1 DISK). Includes the all time classic platformer Looty. It's simple, but by crickey it's good fun.

☐ **Assassins 206**
Includes a Bart Simpson game, and one of the weirdest Tetris clones ever. But it's good.

MUSIC/DEMO

☐ **Fairlight 242**
(CAT 2781 – 1 DISK). Contains a very long video sequence set to the usual techno type music.

☐ **9 Fingers**
(CAT 383 – 2 DISKS). An audio visual feast brought to you from Spaceballs. It's pop-video tastic and no mistake.

☐ **Aluminium**
(CAT 2419 – 1 DISK). A nice new demo with a nice little ray traced animation.

☐ **Armageddon**
(CAT 182 – 1 DISK). A hot demo with good design and a good original bit of music.

☐ **Arte**
(CAT 562 – 1 DISK). A graphical extravaganza of a demo with funky-tronic music.

☐ **Attraction**
(CAT 1243 – 1 DISK). A great music disk with some lovely thoughtful music.

☐ **Basso Continuo**
(CAT 1059 – 1 DISK). Ten excellent funky tunes are on here for your listening pleasure.

☐ **Doop Re-mix**
(CAT 337 – 1 DISK). A good re-mix of that chart topping tune.

☐ **Gastric Ulcer**
(CAT 2724 – 1 DISK). A good collection of some very hard rave tunes. Not for the faint hearted listener.

MUSIC/DEMO

☐ **Gospel Karaoke**
(CAT 10 – 1 DISK). It sounds unbelievable, but it is true. Karaoke Amiga!

☐ **Jesus On Cheese**
(CAT 1251 – 1 DISK). A flashy fast paced rave demo which will have you seeing things.

☐ **Kaos Theory**
(CAT 1114 – 1 DISK). It's rave-omatic Amiga time with some seriously hard tunes.

☐ **Piece of Mind**
(CAT 980 – 1 DISK). A great 3D extravaganza demo with some very classy music.

☐ **Scoopex 2 Unlimited**
(CAT 2241 – 2 DISKS). Good old Scoopex supplies 3 very well produced 2 Unlimited mixes.

☐ **Sequencial**
(CAT 547 – 1 DISK). A roller coaster of a demo.

☐ **For Your Mind**
(CAT 2462 – 1 DISK). Fast video, fast music, a really moving experience for sure.

☐ **State of the Art**
(CAT 19 – 1 DISK). An all time classic demo. Brilliant visuals and a cracking dance tune.

☐ **Star Trek Rave**
(CAT 2390 – 1 DISK). Is nothing sacred? Apparently not. A silly story with pictures which provides a good laugh.

☐ **Techno Tracks 2**
(CAT 1664 – 1 DISK). Awesome music and some great visuals make this a must!!

ALL THE DISKS LISTED ON THIS PAGE ARE COMPATIBLE WITH ALL AMIGA COMPUTERS UNLESS OTHERWISE STATED

USEFUL

☐ **600 Business Letters**
(CAT 291 – 1 DISK). Lots of letters for lots of things.

☐ **Account Master**
(CAT 1817 – 1 DISK). A good little accounts program to help keep your books.

☐ **Amibase Pro 2**
(CAT 293 – 1 DISK). Probably the best database program you can get. Very usable indeed.

☐ **Astro 22**
(CAT 2120 – 1 DISK). An excellent program to help with your astrological predictions.

☐ **Astronomy**
(CAT 2847 – 1 DISK). Produces very detailed planetary information for astronomers.

☐ **Classic Utilities**
(CAT 1863 – 1 DISK). A true collection of classics that you really should have.

☐ **Create Adventures**
(CAT 1027 – 1 DISK). A very nice authoring program.

☐ **Crossword Creator**
(CAT 2161 – 1 DISK). Takes the strain out for you.

☐ **Crunchers disk**
(CAT 1227 – 1 DISK). If disk space is getting tight then this disk is definitely for you.

☐ **D-Copy 3.1**
(CAT 2582 – 1 DISK). The best disk copier you can get.

☐ **Dynamic Skies**
(CAT 1512 – 1 DISK). An amazing night sky viewer which is feature packed.

USEFUL

☐ **Easycalc**
(CAT 1042 – 1 DISK). Simply the best spreadsheet.

☐ **Edword Pro 4**
(CAT 2071 – 1 DISK). A brilliant text editor which has a very good feel about it.

☐ **Forecaster**
(CAT 607 – 1 DISK – NOT 500). If you're a betting man/woman, this disk could be up your street.

☐ **Grinder**
(CAT 1249 – 1 DISK). A versatile screen converter.

☐ **Home Budget**
(CAT 1410 – 1 DISK). This is a very effective little money manager/planner program.

☐ **Inscript**
(CAT 2693 – 1 DISK). Home video titling is rarely this easy or effective.

☐ **Mandelmania**
(CAT 820 – 1 DISK – NOT 500). A very fast fractal generator with fast zoom in and out.

☐ **Mandelplot**
(CAT 90 – 1 DISK). An excellent shareware fractal generator. Tons of fractal types.

☐ **Magnum**
(CAT 2666 – 1 DISK). A good disk magazine creator.

☐ **PC Task 2**
(CAT 1281 – 1 DISK). A working demo of this very good PC emulator program.

☐ **Planetarium**
(CAT 1887 – 1 DISK). A simple program to display the position of the planets.

USEFUL

☐ **Pools Tools 2**
(CAT 442 – 1 DISK). A great rich quick program? Could be couldn't it?

☐ **PP Mini Crunch**
(CAT 838 – 1 DISK – NOT 500). A user friendly interface for the excellent Powerpacker. Very nice.

☐ **S-I-R-D-S**
(CAT 2214 – 1 DISK). Create your very own sterogram pictures and baffle your friends.

☐ **Start of the Art**
(CAT 2317 – 2 DISKS). These disks are packdd chocker with various graphics programs.

☐ **Text Engine 4**
(CAT 1464 – 1 DISK). The best word processor there is. Very well suited to the Amiga.

☐ **The Money Program**
(CAT 1811 – 1 DISK). An excellent home money monitor program. Very useful.

☐ **Utility Disk Maker**
(CAT 2371 – 1 DISK). Proves very helpful for creating your own disks, serious or not.

☐ **Virus Checker**
(CAT 770 – 1 DISK). Always the latest version of this essential virus detector/killer.

☐ **Words**
(CAT 1108 – 1 DISK). A handy program to help you solve crosswords and puzzles.

☐ **X Beat Pro**
(CAT 415 – 1 DISK). A very friendly music sequencer program. Very good for learners.

ANIMATION

☐ **Animation Studio**
(CAT 2406 – 1 DISK). A fantastic program to get you started in animation. Features the onion skin layering technique.

☐ **Boat**
(CAT 933 – 1 DISK). A very nice animation of a typical English garden scene, with a boat.

☐ **Bond's Last Stand**
(CAT 835 – 1 DISK). Bond cops it at last, and not before time too.

☐ **Beach**
(CAT 1566 – 1 DISK). A great single screen picture postcard type animation.

☐ **Human Cannonball**
(CAT 1599 – 1 DISK). An amusing story of how not to be a human cannonball.

☐ **Linus**
(CAT 1018 – 1 DISK). A very original anim with a very good cartoon atmosphere.

☐ **Raging Hormone**
(CAT 2780 – 1 DISK). Poor old hormone tries to pull a bird. He should know better.

☐ **Raging Hormone 2**
(CAT 2473 – 1 DISK). That thick hormone just doesn't know when to stop. Very funny.

☐ **Raging Hormone 3**
(CAT 2130 – 1 DISK). Hormone passes on what he has learnt to his son. What a shame.

☐ **Savings**
(CAT 112 – 1 DISK). The post office savings advert quite a novel end. Funny.

MISCELLANY

☐ **AMOS Libraries**
(CAT 344 – 1 DISK). Some essential add-on command libraries for Amos/Amos Pro.

☐ **Communicate**
(CAT 279 – 1 DISK). Learn how to communicate with sign language and many more.

☐ **Octamed Tutor**
(CAT 2456 – 1 DISK). An excellent guide to getting the most from Octamed or MED.

☐ **Spectrum Emulator**
(CAT 1446 – 1 DISK). Turn your Amiga into a 48k ZX Spectrum. A fast-ish Amiga is recommended though.

☐ **Speccy Classics**
(CAT 498 – 1 DISK). A collection of classic old Spectrum games for use with the above emulator program.

☐ **Speccy Classics 2**
(CAT 1499 – 1 DISK). More great games for emulator.

☐ **Speccy Classics 3**
(CAT 2893 – 1 DISK). And yet more corkers.

☐ **The Dark Room**
(CAT 2160 – 1 DISK). This is a very nicely presented information disk for would be David Baileys. A beginners guide.

☐ **Titanic Cheats**
(CAT 1031 – 1 DISK). Absolutely chock a block full of hints, tips and cheats.

☐ **VIC 20 Emulator**
(CAT 1087 – 1 DISK). Turn your Amiga into a VIC 20. Comes with tons of games. Needs a fast Amiga to fully appreciate.

1200 ONLY

A COLLECTION OF DISKS FOR THE AMIGA 1200 COMPUTER

☐ **Big Time Sensuality**
(CAT 2215 – 2 DISKS). An audio visual treat of a demo with stunning graphics and an almost CD quality soundtrack.

☐ **Explicit 2**
(CAT 1855 – 1 DISK). This is a pretty technically impressive demo to show off your nice Amiga to your mates.

☐ **Friday at Eight**
(CAT 2033 – 1 DISK). A very fast paced demo with a really brilliant music track.

☐ **Full Moon**
(CAT 1740 – 1 DISK). A brilliant demo with a spooky intro and a good pacey tune.

☐ **Love**
(CAT 898 – 2 DISKS). What a lovely demo this one is. Nicey nice and pretty cool.

☐ **Maximum Overdrive**
(CAT 2986 – 2 DISKS). A very long full motion video demo which lasts ages.

☐ **Megaball AGA**
(CAT 842 – 1 DISK). The most popular breakout type game gets even nicer. A must.

☐ **Real**
(CAT 2379 – 1 DISK). Possibly the best AGA demo to date. Totally awesome.

☐ **Relokick 1.4**
(CAT 2918 – 1 DISK). Brings dowward compatibility to your new 1200 to help get some of those old programs working.

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Hip hip array!



Compound variables provide the underlying ARexx mechanism for creating arrays and other data structures. Paul Overaa explains how they are used

Before we get into the nitty gritty of it all, let's get the formal stuff out of the way. A compound variable name contains at least one period and at least two other characters. The name cannot start with a digit or a period and, if there is only one period, it may not be the terminal character. So 'x.1' and 'computer.amiga' are valid compound symbols but '20.x' and 'computer.amiga.' are not!

The first part of the name, i.e. the portion up to and including the first period, is known as the 'stem', so the stems associated with the two valid symbols just mentioned are 'x.' and 'computer.' The remainder of the name is called the 'tail'.

When ARexx encounters a compound variable name it generates a 'derived name' by replacing any references to simple symbols in the tail by the values of those symbols. To see how ARexx behaves when it encounters compound variables and their stems, take a look at listing 1 because when this program runs the output looks like this:

```
1>rx test.rexx
COMPUTER.
COMPUTER
nothing in stock
four Amigas in stock
```

The first SAY instruction is printing an unitialised stem and this turns out to be the upper case name of the stem (including the period). The second SAY references a simple variable called computer and this, because it was not explicitly initialised, has been set to the uppercase equivalent of the variable name itself.

The third SAY instruction prints the contents of a compound variable called 'computer.pc' and because this has not been set to any explicit value, ARexx has initialised it by setting it to the name of the associated stem (since this was subsequently set to the string 'nothing in stock' it is this string which is printed).

The last variable to be printed, the compound variable called computer.amiga, has been initialised, so in this case SAY uses its value, i.e. it prints the string 'four Amigas in stock'.

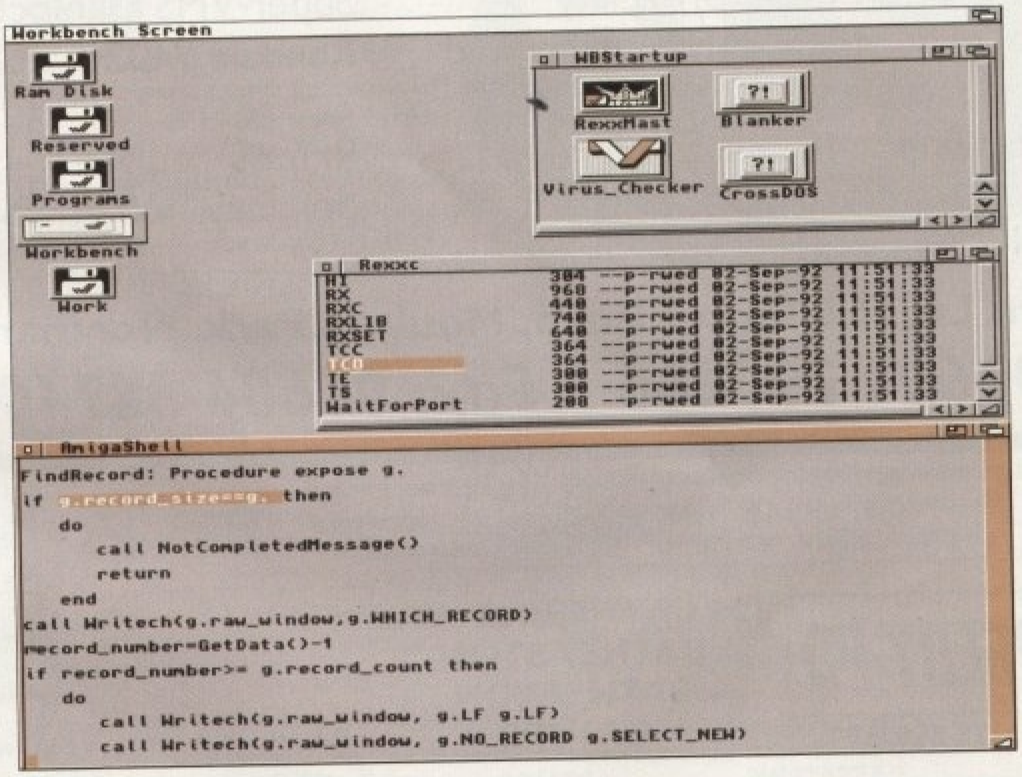
This program tells us a number of important things: Firstly, the stem part of a compound variable can be referenced and initialised in isolation (i.e. without specifying a tail value). Stem assignment statements must, however, include the period in the name because without this, ARexx would think it is dealing with a simple variable.

Secondly, if an unitialised stem is used, ARexx initialises it in the same way that it initialises simple variables, i.e. it sets its value to the name of the stem variable itself (although in this case the name includes the period associated with the stem).

Lastly, it is not an error to use an uninitialised element of a compound variable but when such items are used they take a default value which is the same as the stem.

```
/* listing1.rexx */
say computer.
computer. = 'nothing in stock'
computer.amiga = 'four Amigas in stock'
say computer
say computer.pc
say computer.amiga
```

Listing 1: Experiments like this will tell you a lot about the way ARexx interprets your compound variables!



ARexx compound variables offer very real advantages over other languages

Let's see what all this means in terms of bottom-line coding explanations. Simple one-dimensional arrays are easily set up by defining a compound variable with a tail that consists of a single variable name. For example, a list of values might be collected from a user and effectively stored in an array x.i using this sort of code segment:

```
x. = 0
say 'how many elements'; pull N
do i=0 to N-1
        say 'enter element' i; pull x.i
end
```

Multi-dimensional arrays can be handled just as easily. For example, a two-dimensional NxN identity matrix can be set up with this loop:

```
x. = 0
do i=0 to N-1
        x.i.i=1
end
```

These types of array applications are easily handled with most languages, but ARexx has advantages in that array subscripts do not need to be numeric, large arrays do not have to be predeclared before use, and ARexx only allocates memory space for the array elements that are used.

This means that if, for example, you wish to create an array of a million items, initialise the first and last elements to the value 1, set all other values to zero and then print the first, second and million'th items, for example:

```
x.=0; x.1=1; x.1000000=1
say 'first element = ' x.1
say 'second element = 'x.2
say 'million''th element = ' x.1000000
```

and ARexx would not complain in the slightest. If you have previous experience of other languages you'll realise that to create large, sparsely populated, arrays in this manner is a big plus for ARexx. This however is just the start of the story.

●Next month I'll be showing you a use for compound variables that's as near to magic as you'll get from a programming language!

COMMS

The lost highway

Phil South looks at your choice of telecomms providers and finds them wanting

You all probably read last month about Mercury dropping staff and closing down its phone box operation, as I did, and hung your head in your hands. It's a fact that if this country is going to compete with other European countries, indeed the world, in comms, it has to have the infrastructure to do it.

If the so-called Information Superhighway is going to come about, then this country needs service providers who provide a fast, digital service at the right price (read FREE LOCAL CALLS) and now, not next week or next year. Obviously, the fact that BT is required to drop its prices to keep pace with inflation minus seven per cent means that any competing telecomms provider is really up against it, as Mercury is obviously finding out.

Now this really sucks, because Mercury offers a very good deal for the comms user. The service is digital and has cheaper rates for long distance and international calls, and as a service it falls over itself to help you out. But it can't compete when BT has 80 per cent and it only has nine per cent of the market. This is not what the government is so fond of calling a 'level playing field', in fact it is sloped so sharply in BT's direction that you could snowboard down it really fast.

The problem is that the people in government want everyone to use comms, but they want them to pay for it through their nose and every other bodily orifice because, as was said by a critic recently on the radio, this government 'only wants to line its pockets.'

What's the point of providing a good cheap and fast telephony system when you can keep it slow and charge more money for it? What's the incentive for them to do better?

It was hoped by myself and many other serious comms users that Mercury's very existence would provide a message for the government, and we could all vote with our feet towards Mercury, proving that the existing telephony monopoly was bad news and we all wanted something better.

SHARES

But this was not to be, and even if Mercury continues to grow, there was a table in the paper the other day which said that even by the year 2010, Mercury's slice of the pie chart would still be under 10 per cent, and all the new service providers creeping along from outside – from the US and Europe – like AT&T, will only have a slice equivalent to 1 per cent.

So the basic point is this. Competition in telecomms is going horribly wrong. It was supposed to kick-start BT into doing something about its service, and it has, but when the competition dies away, as it may well do, we will be left with an outdated system run by people with no sympathy for the users, and we'll have to pay dearly for any services we do use.

BT will limp into the comms revolution, providing poor text-based Internet connections for huge amounts of cash, wad up the profits and give them to the people running the company.

So when Japan and the US and Europe all have first-class digital networks like ISDN, working at anywhere between 64k and 2Mbit, what will we have? I have this nightmare about acoustic modems and bakelite phones which keeps coming back to me every night. I log on and I hear a lady's voice down the end of the line saying: "I'm sorry, BT Internet connection is busy at the moment, will you hold please, dear?" and the sound of a huge jack plug being pushed into a hole on a 1950's peg-based switchboard.

It couldn't happen, but figuratively speaking that will be where we are in a few year's time compared to our European competitors. More forward thinking governments will be embracing the world wide comms revolution and providing cheap connections to the Internet. All we'll get is a stop-gap measure and a huge bill. If this bothers you why not e-mail a few party leaders and ask them what the they are going to do about this?

John Major, with his finger on the pulse as usual, has no e-mail address. I suppose you could send him a postcard at 10 Downing Street, asking him if he intends to do anything about this, or does he want us to be bad at this as well. (The Conservative Central Office didn't even know what I was talking about when I called.)

Paddy Ashdown's address is <paddyashdown-@cix.compulink.co.uk>, and he usually answers in two-three days, hip dude that he is. Tony Blair's is <tonyblair@geo2.poptel.org.uk> , although as I have not had a reply from him I don't even know if he reads it. Either way, at least he has an e-mail address, which is something.





Trailing behind

If something is not done about this, and soon, we will have a great deal of difficulty in catching up with the rest of the world. We will again fail miserably to meet with world-wide standards of communication. And not only that, we will miss out on all the fun.

It's down to politicians to get off their butts and do something. And not just because they hope to get a job as the chairman of a telecomms company, either. We don't need more sleaze. We need more bandwidth.

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How to get titled

There are fancy titles revealing all, and those with just the bare minimum of information. Gary Whiteley shows how to make whichever you require



If you've been sitting around watching all the blather that goes on in the House Of Lords and wondering why on earth you might want to get your own title, then I seriously (and respectfully) suggest that you stop reading right now, go out into the street and jump up and down shouting "I'm completely bonkers." Why? Because the titles I'm referring to are video titles, as you should have well known.

Video titles are those things which, obviously, are stuck at the front of videos to provide vital information like what the video is called, who is in it, and so on. Video titling also covers such things as credit sequences, subtitles, captions and ident graphics.

However, not all videomakers need all these kinds of video titling effects. For some, just a simple graphic showing the name of the video and who's in it will suffice. For others, only the whole shooting match is acceptable.

So this month we'll take a quick spin through features which may (or may not) be useful in a video titler, what they might be used for and what software might best provide them.

Firstly though, let me just point out a couple of important things. To overlay titles onto video images requires the use of a genlock, and these cost from around £50 to well over £1000.

In order to use a genlock and record your titled images to tape again, you'll need access to at least two video decks (one for playback, another to record onto) and, if possible, some way of controlling both video machines simultaneously if you require more than a passing chance at accurate control.

Of course you can just record your titles direct to video tape, though you'll still need a modulator, encoder or genlock to convert your Amiga's RGB output to RF or other suitable video signal.

For many folks, a simple static title might be all that's required. Perhaps 'Our Holiday In Sorrento, 1994' or 'Baby's First Birthday' will suffice if you're a home video buff. If this is the case, you'll find that a lot can be done with a paint program like Deluxe Paint or Brilliance – even with a relatively brain-dead (i.e. not stacked with RAM) Amiga. Grab a few fonts, load up your software, get creative and Bob could soon be your uncle.

With paint programs like these it's also very easy to make up a set of frames and play them back automatically or manually so that a whole series of separate captions or graphics can be used, for instance to provide a list of actors.

With a bit of imagination, plenty of memory and perhaps a hard drive, a paint program can be pushed pretty hard to provide some interesting animated effects. However, such programs do have limitations and their simplicity won't appeal to everyone. Spurred on by his ever-present master, the willing slave to television wants more. More show, more glitz, more control. And lots of funky movement. Well, at least up to a point, because once we start talking frills we start talking money – and more frills usually mean more money, but not always.



With a genlock and a paint program this kind of static title is easily possible.

FEATURES

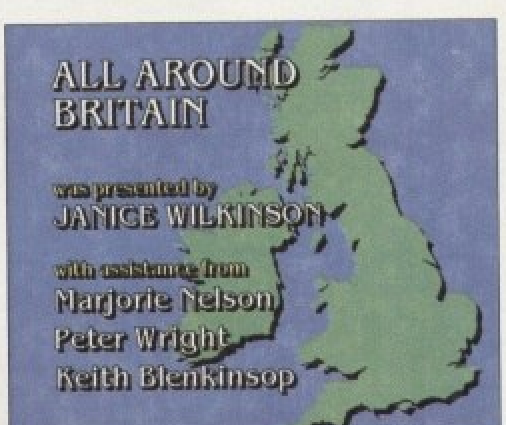
I'd say that one of the most important features of a video titling program (beyond its abilities to left, right and centre justify text in a variety of styles, sizes and colours, add shadows, outlines and underlining and, if possible, accept text files from a word processor) is to be able to produce speed-adjustable, smoothly scrolling text displays, such as those used for credit sequences.

Scrolling is a swish way of getting a lot of information across with a minimum of fuss, especially if it is genlocked over video images. Programs like Alternative Image's Big Alternative Scroller 2 (aka BAS 2) and Scala's MultiMedia MM300 represent extreme ends of this market, with both doing a fine job of scrolling (vertical movement of text) and crawling (horizontal movement), but of course the more expensive Scala MM300 has lots more bells and whistles.

Scrolls, crawls and flipping through page sequences (cuts) are the staple fare of any half-decent video titler, but there are a few programs that take it all so much further. I'm thinking particularly of the Scala series, though Activa's MediaPoint could rightly be included here too.

By including such features as animation playback, IFF background loading, a wide selection of wipes and other transitions, the ability to play sound files as part of a script and a variety of control mechanisms for both playback and the control of external devices, such programs become so much more than just video titling programs.

Granted, not everyone needs such a range of capabilities but for professional-looking presentations and eye-catching graphics, there's really no substitute for such class. Although programs like Scala MM300 and MediaPoint require seriously-specced Amigas there's still little, if anything, to touch them on the PC or Mac.



With more advanced titling software, professional-style scrolling captions become available

End credits

So, if you want to get a title, arm yourself with a genlock, some software and a few good ideas. For basic work just a paint program could suffice. For more flair, a package which offers scrolling and crawling, and a good variety of fonts is what's required, but if you really want to hit the high notes you'll need an all-singing, all-dancing Amiga and some top-class multimedia software like MediaPoint or Scala MM. Now you know, what are you waiting for? Get out and get titled today.

AMIGA COMPUTING

ADVERTISERS INDEX

Aural Illusions

Paul Overaa explains how the timely arrival of this new sample editing program has solved a particularly nasty Amiga PC 16-bit sound sample portability problem...

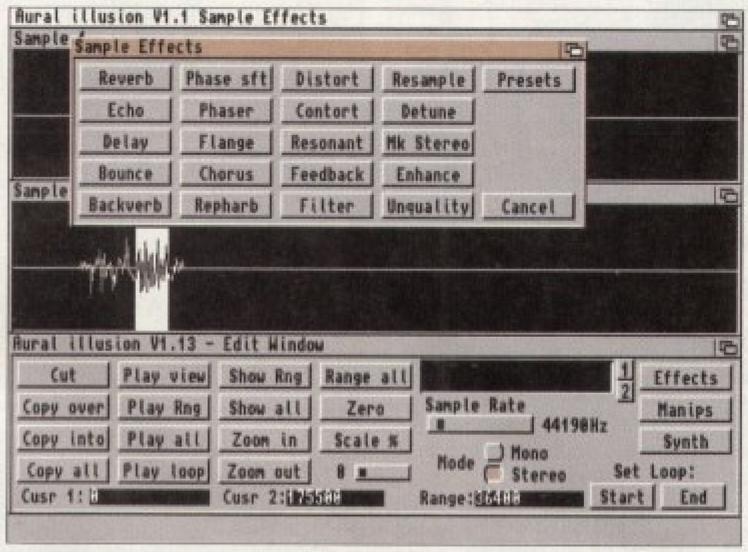
I had a letter the other day from someone who had been trying to convert 16-bit sound effects from a CD-ROM drive-based multimedia PC system on to their Amiga. They had stored their sampled PC wave data as raw samples, and copied these data files to their Amiga sample editor using CrossDOS (needless to say with the text option turned off). Apparently, the samples, once transferred to the Amiga, just sounded like noise and were totally unrecognisable!

This problem occurs because on all machines, 16-bit sample data is stored as values represented by two 8-bit bytes. Unfortunately, the 80x86 processor-based PC machines store the bytes of this data in the opposite order to 680x0-based machines such as the Amiga. This means that if you use CrossDOS to read raw data like this from a PC file, the two bytes end up the wrong way round.

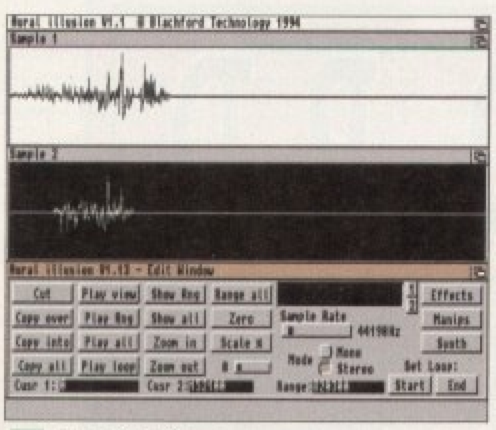
Since those pairs of bytes represent intensity (amplitude) information, it's not hard to appreciate that any software that reads this data the wrong way round is going screw up the digital representation of the original waveform!

The solution, of course, is to find, or write, a utility that allows the data bytes of a 16-bit sample to be swapped around as they are read into the Amiga, and although utilities that perform this specific conversion are easy enough to write, it just so happens that a new sample editing tool has appeared which already has these Amiga/PC oriented byte-reversal facilities built in.

The program, Aural Illusion, is a tool that can be used for both editing and creating sound files, and a number of file formats are supported. 8-bit 8SVX files, 16-bit AIFF format, Audio Visual Research's AVR format (used on the Atari ST), Amiga style 8-bit, 16-bit raw data files and byte-reversed 16-bit raw data can all be handled, along with Aural Illusion's own custom sample format.



A control bank allows you to perform a whole range of useful effects

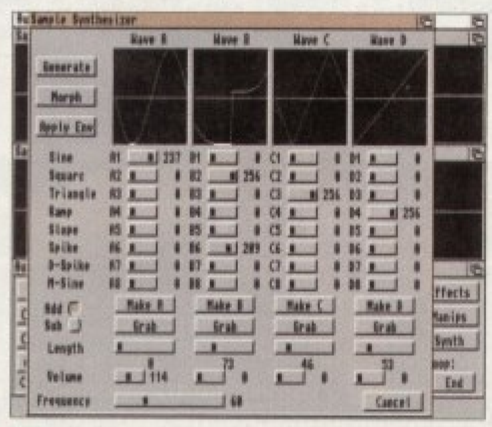


Aural Illusion – a new program worth watching

On the editing side, the usual types of cut/copy, looping type operations are available along with effects like reverb, echo, delay, flange, and chorusing. As well as effects, there are a lot of different waveform manipulations (adding, subtracting ANDing, ORing, Flipping and so on) which can be applied to a sample, although to be honest I've found these of limited use to date.

SYNTHESIZER

Aural Illusion also has a rudimentary synthesizer available and this allows you to create sounds by building them up from basic waveforms (sine wave, square wave and so on). The synth also lets you 'morph' the results into other waves over time (making sounds which change through time), although you can't listen to the morphing/mixing effects in real time so you have to experiment, then go back to the sample playing display to hear the results. This, to be honest, is a bit of a pain.



Aural Illusion includes synthesized sound generation facilities

Since the Amiga's audio hardware is only 8-bit you will, needless to say, only hear your sounds played at that resolution unless you've got Clarity 16, or a 16-bit Sunrize board, available. Aural Illusion does, however, work internally in 16-bit format and actually performs many of its effects and calculations using 32-bits to minimise quality losses during waveform processing.



Is it a winner

I must admit to liking the ideas behind Aural Illusion and there's no doubt that the byte reversal facilities could prove invaluable for anyone moving raw sample data between the Amiga and PC machines.

Having said that, Aural Illusion is still a relatively young product and, in certain editing areas, the program is not as easy to use as it should be. In particular, there are some features lacking (time stretch/compress facilities for example) so it's not a program I would use for run-of-the-mill sample editing as such. It does however look to be useful for special effects, format translation and so on.

Aural Illusion requires Kickstart/Workbench 2.04 or greater and 1 Mb RAM, although more memory is recommended for serious use – particularly if you want to work with 16-bit samples.

There has been quite a lot of interest in the program of late, particularly since the price has dropped to just £20. There is also an upgrade planned for next year which will include many of the facilities that existing users have asked to be added.

Incidentally, potential users might like to know that if they purchase Aural Illusion now they'll be entitled to a free upgrade when the new version arrives.

The bottom line

Product: Aural Illusion
Supplier: Seasoft Computing
Price: £20
Tel: 0903-850378

Ease of use	**6**
Implementation	**7**
Value for money	**8**
Overall	**7**



All in a title

Ben Pointer takes you through the motions for choosing your subheadings and shows why style and position are so vital



The simplest and quickest way to break up columns of copy is to use subheadings. Most pieces of writing have natural breaks in them, for instance, where the author moves suddenly from one subject matter to another.

These can be spotted at the editing stage and subheadings inserted if it is thought necessary. Later, when the copy has been pasted, you may need to add further subheadings or even remove one or two if there are too many on a page. We'll come on to this later, but first we should decide on a style.

It's important that all subheadings in an article carry the same weight. In other words, they should all be in the same font, showing regularity. Many publications which use a serif typeface for body copy choose a sans serif typeface for subheadings, so that they complement the body text.

The reverse isn't so true, but there is nothing wrong with using serif subheadings if that is what you want to do. What's more important is that the font you choose isn't asking too much from your output device.

CHOICES

At 300 dpi or more the world of fonts is your oyster, but if you've got a low resolution 9-pin printer, don't go for a fancy font or very round font that is going to exaggerate the jaggedness of the output, and take a long time to print. Subheadings stick out. They are a kind of advertisement for the text beneath them. If the subheadings look bad, the text beneath may be as well.

Having said that, never be afraid to experiment, but remember this: Small cock-ups are mistakes, big cock-ups are bold layouts. Discovering the limit to which you can push your particular set-up is part of the learning curve – keep in mind that you won't find that limit until you go past it.

The above notwithstanding, and although subheadings provide stopping points for tired or busy readers, on the whole people read straight through them. This doesn't mean you can use any old drivel as a subheading. The words you choose will have greater emphasis if they relate to the first paragraph directly underneath the subheading or, if the first paragraph is only two or three lines, the second paragraph if you must.

A handy tip for very busy editors is to pull out a single word from the paragraph underneath the subheading. This will be a word that best describes the subject of the paragraph, so the readers will know what is coming up next. Subheadings that wrap on to more than one line generally look amateurish, so if you use more than one or two words, choose short ones and use them sparingly. As well as keeping the style of subheadings the same throughout an article, it is a good idea to use the same font for subheadings throughout the whole publication. (Remember that a 'font' is the combination of typeface, point size and weight.) Readers will come to recognise them for what they are and take less notice of them.

"What! You mean I've spent all this time and effort on something my readers will take no notice of!" Uh-huh. You see, there may be times when you will want to stop readers in their tracks – maybe to make a point, to say that that was the end of that bit and this is the start of the next bit, or maybe just for the hell of it.

To achieve this you will choose a different font, probably a larger one, but a much smaller one will have the same effect – as long as it is a change from the general theme of subheadings it will serve its purpose. Therefore, you can see that if you use different fonts for subheadings all the time you lose the option of the surprise attack.



The perfect positioning for your subheadings. Here they separate the second leg of the text, with enough lines above and below to maintain continuous text flow

This example is in the wrong position. It is a long column of text which has already been broken up by the title, so the subheading should be in the second column

In the right place

We've already decided that the editing stage is a natural time to insert subheadings into copy, but this isn't the end of it. There are places on the page where subheadings look ugly or awkward, so must be changed. For instance, imagine a subheading falling right at the foot of a column, with the copy following it starting at the top of the next column. This will look a trifle silly as there will be no continuation in the text after the subheading, but it will happen sometimes.

Subheadings also look bad right at the top of columns, or too close to the top or bottom of columns. You should have at least five or six lines underneath a subheading that falls close to the foot of a column, and at least five or six lines before a subheading that falls close to the top of a column.

The quickest and easiest way to deal with the problem of a subheading falling in the wrong place is to move it somewhere else, or even remove it altogether if there is no space for it. Remember that if you move a subheading you will have to re-write it so that it is relevant to the new paragraph of copy following it.

This mucks up the natural breaks in the copy, but at the layout stage we are not concerned with this as it can all be rectified in the end – we merely want to obtain an overall appearance of the article on the page.

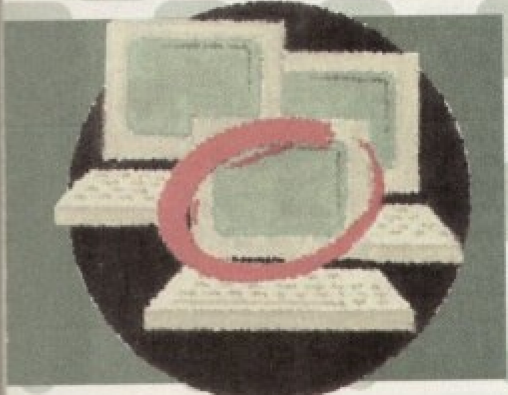
As stated before, most people read straight through subheadings, so the flow of the article isn't disrupted as much as you think it is. Remember, only you will know a subheading has been moved to another place or removed completely – readers will think it has always been in that position or that there never has been one in the text in the first place.

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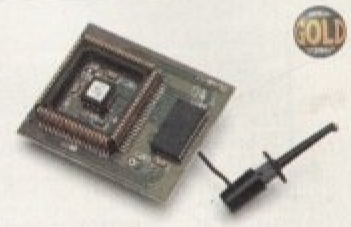
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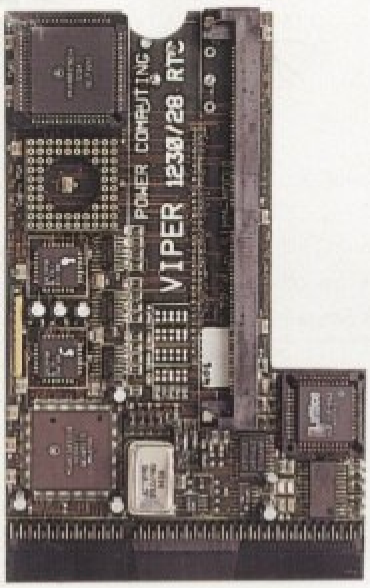
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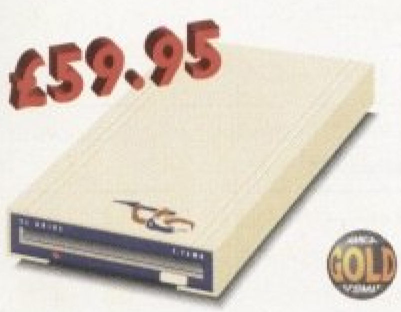
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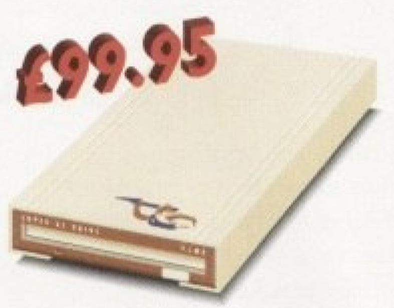
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